

# Archie R Portis

## List of Publications by Year in descending order

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70  
papers

8,039  
citations

57631

44  
h-index

102304

66  
g-index

76  
all docs

76  
docs citations

76  
times ranked

6950  
citing authors

#	ARTICLE	IF	CITATIONS
1	Frontiers, Opportunities, and Challenges in Biochemical and Chemical Catalysis of CO <sub>2</sub> Fixation. <i>Chemical Reviews</i> , 2013, 113, 6621-6658.	23.0	1,786
2	Temperature Response of Mesophyll Conductance. Implications for the Determination of Rubisco Enzyme Kinetics and for Limitations to Photosynthesis in Vivo. <i>Plant Physiology</i> , 2002, 130, 1992-1998.	2.3	659
3	Rubisco activase - Rubisco's catalytic chaperone. <i>Photosynthesis Research</i> , 2003, 75, 11-27.	1.6	494
4	Light-dependent changes of the Mg <sup>2+</sup> concentration in the stroma in relation to the Mg <sup>2+</sup> dependency of CO <sub>2</sub> fixation in intact chloroplasts. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1976, 449, 434-446.	0.5	249
5	A soluble chloroplast protein catalyzes ribulosebisphosphate carboxylase/oxygenase activation in vivo. <i>Photosynthesis Research</i> , 1985, 7, 193-201.	1.6	230
6	Regulation of Rubisco activase and its interaction with Rubisco. <i>Journal of Experimental Botany</i> , 2007, 59, 1597-1604.	2.4	205
7	Activation of Ribulosebisphosphate Carboxylase/Oxygenase at Physiological CO <sub>2</sub> and Ribulosebisphosphate Concentrations by Rubisco Activase. <i>Plant Physiology</i> , 1986, 82, 967-971.	2.3	191
8	Light modulation of Rubisco in Arabidopsis requires a capacity for redox regulation of the larger Rubisco activase isoform. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 3330-3334.	3.3	186
9	Enhanced translation of a chloroplast-expressed RbcS gene restores small subunit levels and photosynthesis in nuclear RbcS antisense plants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 6315-6320.	3.3	180
10	A Mutant of <i>Arabidopsis thaliana</i> Which Lacks Activation of RuBP Carboxylase <i>In Vivo</i> . <i>Plant Physiology</i> , 1982, 70, 381-387.	2.3	167
11	Temperature Dependence of Photosynthesis in Arabidopsis Plants with Modifications in Rubisco Activase and Membrane Fluidity. <i>Plant and Cell Physiology</i> , 2005, 46, 522-530.	1.5	149
12	Purification and Species Distribution of Rubisco Activase. <i>Plant Physiology</i> , 1987, 84, 930-936.	2.3	143
13	Cool C4 Photosynthesis: Pyruvate Pi Dikinase Expression and Activity Corresponds to the Exceptional Cold Tolerance of Carbon Assimilation in <i>Miscanthus</i> — <i>giganteus</i> . <i>Plant Physiology</i> , 2008, 148, 557-567.	2.3	143
14	Rubisco Activase Mediates ATP-Dependent Activation of Ribulose Bisphosphate Carboxylase. <i>Plant Physiology</i> , 1987, 85, 152-154.	2.3	140
15	Adenosine triphosphate hydrolysis by purified rubisco activase. <i>Archives of Biochemistry and Biophysics</i> , 1989, 268, 93-99.	1.4	139
16	Discoveries in Rubisco (Ribulose 1,5-bisphosphate carboxylase/oxygenase): a historical perspective. <i>Photosynthesis Research</i> , 2007, 94, 121-143.	1.6	138
17	Light and CO <sub>2</sub> Response of Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase Activation in Arabidopsis Leaves. <i>Plant Physiology</i> , 1986, 80, 655-659.	2.3	130
18	Arabidopsis <i>thaliana</i> expressing a thermostable chimeric Rubisco activase exhibits enhanced growth and higher rates of photosynthesis at moderately high temperatures. <i>Photosynthesis Research</i> , 2009, 100, 143-153.	1.6	127

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19	The regulation of Rubisco by Rubisco activase. <i>Journal of Experimental Botany</i> , 1995, 46, 1285-1291.	2.4	123
20	Effects of Adenine Nucleotides and of Photophosphorylation on H <sup>+</sup> Uptake and the Magnitude of the H <sup>+</sup> Gradient in Illuminated Chloroplasts. <i>Journal of Biological Chemistry</i> , 1974, 249, 6250-6254.	1.6	117
21	Fructose-and sedoheptulosebisphosphatase. The sites of a possible control of CO <sub>2</sub> fixation by light-dependent changes of the stromal Mg <sup>2+</sup> concentration. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1977, 461, 313-325.	0.5	105
22	Potent Inhibition of Ribulose-Bisphosphate Carboxylase by an Oxidized Impurity in Ribulose-1,5-Bisphosphate1. <i>Plant Physiology</i> , 1998, 117, 1059-1069.	2.3	105
23	Impaired reductive activation of stromal bisphosphatases in tomato leaves following low-temperature exposure at high light. <i>Archives of Biochemistry and Biophysics</i> , 1990, 282, 302-308.	1.4	103
24	Dissociation of Ribulose-1,5-Bisphosphate Bound to Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase and Its Enhancement by Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase Activase-Mediated Hydrolysis of ATP. <i>Plant Physiology</i> , 1992, 99, 1348-1353.	2.3	99
25	Evidence of a Low Stromal Mg <sup>2+</sup> Concentration in Intact Chloroplasts in the Dark. <i>Plant Physiology</i> , 1981, 67, 985-989.	2.3	95
26	Species-Dependent Variation in the Interaction of Substrate-Bound Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase (Rubisco) and Rubisco Activase. <i>Plant Physiology</i> , 1992, 100, 1858-1862.	2.3	95
27	Rubisco activase. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1990, 1015, 15-28.	0.5	92
28	Involvement of Stromal ATP in the Light Activation of Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase in Intact Isolated Chloroplasts. <i>Plant Physiology</i> , 1988, 86, 293-298.	2.3	91
29	Release of the nocturnal inhibitor, carâˆ™arabinitol-1 -phosphate, from ribulose bisphosphate carâˆ™ylase/oxygenase by rubisco activase. <i>FEBS Letters</i> , 1988, 233, 413-416.	1.3	90
30	Purification and Assay of Rubisco Activase from Leaves. <i>Plant Physiology</i> , 1988, 88, 1008-1014.	2.3	87
31	The life of ribulose 1,5-bisphosphate carboxylase/oxygenaseâ€™ posttranslational facts and mysteries. <i>Archives of Biochemistry and Biophysics</i> , 2003, 414, 150-158.	1.4	86
32	Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase Activase Protein Prevents the in Vitro Decline in Activity of Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase. <i>Plant Physiology</i> , 1989, 90, 968-971.	2.3	83
33	Protein-Bound Ribulose Bisphosphate Correlates with Deactivation of Ribulose Bisphosphate Carboxylase in Leaves. <i>Plant Physiology</i> , 1988, 87, 244-249.	2.3	76
34	Oxygen-dependent H <sub>2</sub> O <sub>2</sub> production by Rubisco. <i>FEBS Letters</i> , 2004, 571, 124-128.	1.3	73
35	Specificity for Activase Is Changed by a Pro-89 to Arg Substitution in the Large Subunit of Ribulose-1,5-bisphosphate Carboxylase/Oxygenase. <i>Journal of Biological Chemistry</i> , 1997, 272, 17033-17037.	1.6	68
36	Targeting a Nuclear Anthranilate Synthase Î±-Subunit Gene to the Tobacco Plastid Genome Results in Enhanced Tryptophan Biosynthesis. Return of a Gene to Its Pre-Endosymbiotic Origin. <i>Plant Physiology</i> , 2001, 127, 131-141.	2.3	64

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37	Characterization of the regulatory function of the 46-kDa isoform of Rubisco activase from <i>Arabidopsis</i> . <i>Photosynthesis Research</i> , 2001, 68, 29-37.	1.6	60
38	Conformational changes in coupling factor 1 may control the rate of electron flow in spinach chloroplasts. <i>Biochemical and Biophysical Research Communications</i> , 1975, 64, 877-884.	1.0	57
39	Activase Region on Chloroplast Ribulose-1,5-bisphosphate Carboxylase/Oxygenase. <i>Journal of Biological Chemistry</i> , 2000, 275, 26241-26244.	1.6	56
40	Mg <sup>2+</sup> and ATP or adenosine 5- $\alpha$ -[ <sup>3</sup> -thio]-triphosphate (ATP- <sup>3</sup> S) enhances intrinsic fluorescence and induces aggregation which increases the activity of spinach Rubisco activase. <i>BBA - Proteins and Proteomics</i> , 1993, 1202, 47-55.	2.1	54
41	Effect of activase level and isoform on the thermotolerance of photosynthesis in <i>Arabidopsis</i> . <i>Journal of Experimental Botany</i> , 2006, 57, 3793-3799.	2.4	53
42	Effects of Irradiance and Methyl Viologen Treatment on ATP, ADP, and Activation of Ribulose Bisphosphate Carboxylase in Spinach Leaves. <i>Plant Physiology</i> , 1988, 88, 850-853.	2.3	52
43	Can the cold tolerance of C4 photosynthesis in <i>Miscanthus x giganteus</i> relative to <i>Zea mays</i> be explained by differences in activities and thermal properties of Rubisco?. <i>Journal of Experimental Botany</i> , 2007, 59, 1779-1787.	2.4	49
44	Two Residues of Rubisco Activase Involved in Recognition of the Rubisco Substrate. <i>Journal of Biological Chemistry</i> , 2005, 280, 24864-24869.	1.6	47
45	Purification of ribulose-1,5-bisphosphate carboxylase/oxygenase with high specific activity by fast protein liquid chromatography. <i>Analytical Biochemistry</i> , 1986, 153, 97-101.	1.1	45
46	A Novel Nucleus-Encoded Chloroplast Protein, PIFI, Is Involved in NAD(P)H Dehydrogenase Complex-Mediated Chlororespiratory Electron Transport in <i>Arabidopsis</i> . <i>Plant Physiology</i> , 2007, 144, 1742-1752.	2.3	37
47	Kinetic Analysis of the Slow Inactivation of Rubisco During Catalysis: Effects of Temperature, O <sub>2</sub> and Mg <sup>2+</sup> . <i>Photosynthesis Research</i> , 2006, 87, 195-204.	1.6	36
48	On the pH-dependence of the light-induced hydrogen ion gradient in spinach chloroplasts. <i>Archives of Biochemistry and Biophysics</i> , 1973, 156, 621-625.	1.4	35
49	Complementation of the Nuclear Antisense <i>rbcS</i> -Induced Photosynthesis Deficiency by Introducing an <i>rbcS</i> Gene into the Tobacco Plastid Genome. <i>Plant and Cell Physiology</i> , 2002, 43, 1302-1313.	1.5	34
50	Assay of nucleotides and other phosphate-containing compounds in isolated chloroplasts by ion exchange chromatography. <i>Analytical Biochemistry</i> , 1980, 101, 278-287.	1.1	32
51	Increased Sensitivity of Oxidized Large Isoform of Ribulose-1,5-bisphosphate Carboxylase/Oxygenase (Rubisco) Activase to ADP Inhibition Is Due to an Interaction between Its Carboxyl Extension and Nucleotide-binding Pocket. <i>Journal of Biological Chemistry</i> , 2006, 281, 25241-25249.	1.6	29
52	The discovery of Rubisco activase - yet another story of serendipity. <i>Photosynthesis Research</i> , 2002, 73, 257-264.	1.6	28
53	Alteration of the Adenine Nucleotide Response and Increased Rubisco Activation Activity of <i>Arabidopsis</i> Rubisco Activase by Site-Directed Mutagenesis1. <i>Plant Physiology</i> , 2000, 123, 1077-1086.	2.3	25
54	Effects of the Relative Extrachloroplastic Concentrations of Inorganic Phosphate, 3-Phosphoglycerate, and Dihydroxyacetone Phosphate on the Rate of Starch Synthesis in Isolated Spinach Chloroplasts. <i>Plant Physiology</i> , 1982, 70, 393-396.	2.3	23

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55	Stimulation of thylakoid energization and ribulose-bisphosphate carboxylase/oxygenase activation in Arabidopsis leaves by methyl viologen. FEBS Letters, 1987, 221, 215-220.	1.3	22
56	Activation of Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase (Rubisco) by Rubisco Activase. Plant Physiology, 1990, 94, 245-250.	2.3	22
57	Identification of critical arginine residues in the functioning of Rubisco activase. Archives of Biochemistry and Biophysics, 2006, 450, 176-182.	1.4	22
58	Partial reduction in ribulose 1,5-bisphosphate carboxylase/oxygenase activity by carboxypeptidase A. Archives of Biochemistry and Biophysics, 1990, 283, 397-400.	1.4	19
59	Analysis of the Role of the Phosphate Translocator and External Metabolites in Steady-State Chloroplast Photosynthesis. Plant Physiology, 1983, 71, 936-943.	2.3	17
60	A fluorometric study with 1-anilinonaphthalene-8-sulfonic acid (ANS) of the interactions of ATP and ADP with rubisco activase. BBA - Proteins and Proteomics, 1991, 1079, 263-267.	2.1	17
61	Inhibition of the Photosynthetic Activities of Isolated Spinach Chloroplasts by Phosphonate Compounds. Plant Physiology, 1987, 84, 649-653.	2.3	15
62	Exchange Properties of the Activator CO <sub>2</sub> of Spinach Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase. Plant Physiology, 1986, 80, 707-710.	2.3	12
63	The discovery of Rubisco activase "yet another story of serendipity. Advances in Photosynthesis and Respiration, 2005, , 851-858.	1.0	9
64	Activity of Ribulose 1,5-Bisphosphate Carboxylase Oxygenase as a Function of Storage Conditions. Plant Physiology, 1990, 93, 1511-1513.	2.3	7
65	Two conserved tryptophan residues are responsible for intrinsic fluorescence enhancement in Rubisco activase upon ATP binding. Photosynthesis Research, 2006, 88, 185-193.	1.6	7
66	Regulation of Photosynthetic Carbon Metabolism under Photorespiratory and Non-photorespiratory Conditions: the Role of Phosphate and Triose Phosphates. , 1984, , 821-824.		2
67	Rubisco Activase; Purification, Subunit Composition and Species Distribution. , 1987, , 379-382.		1
68	Rubisco Activase. , 2004, , 1117-1119.		0
69	An Increase In Expression Of Pyruvate Pi Dikinase Corresponds To Cold-Tolerant C4 Photosynthesis Of Miscanthus X Giganteus. , 2008, , 845-849.		0
70	Characteristics of the Interaction between Rubisco and Rubisco Activase. , 1995, , 3933-3938.		0