F Robert Tabita

List of Publications by Year
in descending order

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93 papers	5,074 citations	109321 35 h-index	98798 67 g-index
93 all docs	93 docs citations	93 times ranked	3856 citing authors

#	Article	IF	Citations
1	Complete genome sequence of the metabolically versatile photosynthetic bacterium Rhodopseudomonas palustris. Nature Biotechnology, 2004, 22, 55-61.	17.5	675
2	Distinct form I, II, III, and IV Rubisco proteins from the three kingdoms of life provide clues about Rubisco evolution and structure/function relationships. Journal of Experimental Botany, 2007, 59, 1515-1524.	4.8	341
3	Microbial ribulose 1,5-bisphosphate carboxylase/oxygenase: A different perspective. Photosynthesis Research, 1999, 60, 1-28.	2.9	315
4	Function, Structure, and Evolution of the RubisCO-Like Proteins and Their RubisCO Homologs. Microbiology and Molecular Biology Reviews, 2007, 71, 576-599.	6.6	310
5	Alkalilimnicola ehrlichii sp. nov., a novel, arsenite-oxidizing haloalkaliphilic gammaproteobacterium capable of chemoautotrophic or heterotrophic growth with nitrate or oxygen as the electron acceptor. International Journal of Systematic and Evolutionary Microbiology, 2007, 57, 504-512.	1.7	226
6	d-Ribulose 1,5-Diphosphate Carboxylase from Rhodospirillum rubrum. Journal of Biological Chemistry, 1974, 249, 3459-3464.	3.4	186
7	Phylogenetic and evolutionary relationships of RubisCO and the RubisCO-like proteins and the functional lessons provided by diverse molecular forms. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 2629-2640.	4.0	134
8	d-Ribulose 1,5-Diphosphate Carboxylase from Rhodospirillum rubrum. Journal of Biological Chemistry, 1974, 249, 3453-3458.	3.4	117
9	Unusual Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase of Anoxic Archaea. Journal of Bacteriology, 1999, 181, 1569-1575.	2.2	105
10	RubisCO of a nucleoside pathway known from Archaea is found in diverse uncultivated phyla in bacteria. ISME Journal, 2016, 10, 2702-2714.	9.8	98
11	Regulators of nonsulfur purple phototrophic bacteria and the interactive control of CO2assimilation, nitrogen fixation, hydrogen metabolism and energy generation. FEMS Microbiology Reviews, 2004, 28, 353-376.	8.6	85
12	A hybrid ribulose bisphosphate carboxylase/oxygenase enzyme exhibiting a substantial increase in substrate specificity factor. Biochemistry, 1992, 31, 5553-5560.	2.5	77
13	The form II fructose 1,6-bisphosphatase and phosphoribulokinase genes form part of a large operon in Rhodobacter sphaeroides: primary structure and insertional mutagenesis analysis. Biochemistry, 1990, 29, 8085-8093.	2.5	75
14	Modified Pathway To Synthesize Ribulose 1,5-Bisphosphate in Methanogenic Archaea. Journal of Bacteriology, 2004, 186, 6360-6366.	2.2	75
15	A RubisCO-like protein links SAM metabolism with isoprenoid biosynthesis. Nature Chemical Biology, 2012, 8, 926-932.	8.0	73
16	Synthesis of Catalytically Active Form III Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase in Archaea. Journal of Bacteriology, 2003, 185, 3049-3059.	2.2	68
17	Maintenance and control of redox poise in Rhodobacter capsulatus strains deficient in the Calvin-Benson-Bassham pathway. Archives of Microbiology, 2000, 174, 322-333.	2.2	64
18	Positive and Negative Selection of Mutant Forms of Prokaryotic (Cyanobacterial) Ribulose-1,5-bisphosphate Carboxylase/Oxygenase. Journal of Molecular Biology, 2003, 331, 557-569.	4.2	61

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19	Physiological Control and Regulation of the Rhodobacter capsulatus cbb Operons. Journal of Bacteriology, 1998, 180, 4258-4269.	2.2	59
20	The Biochemistry and Metabolic Regulation of Carbon Metabolism and CO2 Fixation in Purple Bacteria. , 1995, , 885-914.		58
21	Ecophysiology of â€œ Halarsenatibacter silvermanii â€•Strain SLAS-1 ^T , gen. nov., sp. nov., a Facultative Chemoautotrophic Arsenate Respirer from Salt-Saturated Searles Lake, California. Applied and Environmental Microbiology, 2009, 75, 1950-1960.	3.1	58
22	Cloning and expression in Escherichia coli of the form II ribulose 1,5-bisphosphate carboxylase/ oxygenase gene from Rhodopseudomonas sphaeroides. Gene, 1984, 31, 91-101.	2.2	57
23	Multiple regulators and their interactions in vivo and in vitro with the cbb regulons of Rhodobacter capsulatus11Edited by N.-H. Chua. Journal of Molecular Biology, 2000, 300, 1079-1099.	4.2	55
24	Amino acid substitutions in the small subunit of ribulose-1,5-bisphosphate carboxylase/oxygenase that influence catalytic activity of the holoenzyme. Biochemistry, 1992, 31, 519-525.	2.5	51
25	Regulation, unique gene organization, and unusual primary structure of carbon fixation genes from a marine phycoerythrin-containing cyanobacterium. Plant Molecular Biology, 1996, 32, 1103-1115.	3.9	50
26	CbbR, the Master Regulator for Microbial Carbon Dioxide Fixation. Journal of Bacteriology, 2015, 197, 3488-3498.	2.2	48
27	Rhodobacter capsulatus genes encoding form I ribulose-1,5-bisphosphate carboxylase/oxygenase (cbbLS) and neighbouring genes were acquired by a horizontal gene transfer. Microbiology (United) Tj ETQq1 1 0.784314 rgBT /Overlo	2.8	46
28	A nitrogenase-like enzyme system catalyzes methionine, ethylene, and methane biogenesis. Science, 2020, 369, 1094-1098.	12.6	44
29	Interactive Control of Rhodobacter capsulatus Redox-Balancing Systems during Phototrophic Metabolism. Journal of Bacteriology, 2001, 183, 6344-6354.	2.2	43
30	Insights into the stress response and sulfur metabolism revealed by proteome analysis of a Chlorobium tepidum mutant lacking the Rubisco-like protein. Photosynthesis Research, 2003, 78, 231-248.	2.9	43
31	Interactions of the cbbII Promoter-Operator Region with CbbR and RegA (PrrA) Regulators Indicate Distinct Mechanisms to Control Expression of the Two cbb Operons of Rhodobacter sphaeroides. Journal of Biological Chemistry, 2003, 278, 16443-16450.	3.4	40
32	Effector-Mediated Interaction of CbbRI and CbbRII Regulators with Target Sequences in Rhodobacter capsulatus. Journal of Bacteriology, 2004, 186, 8026-8035.	2.2	40
33	The Rubisco activase (rca) gene is located downstream from rbcS in Anabaena sp. strain CA and is detected in other Anabaena/Nostoc strains. Plant Molecular Biology, 1993, 21, 753-764.	3.9	39
34	The Biochemistry and Molecular Regulation of Carbon Dioxide Metabolism in Cyanobacteria. , 1994, , 437-467.		39
35	Expression of thecbbLcbbS andcbbM genes and distinct organization of thecbb Calvin cycle structural genes ofRhodobacter capsulatus. Archives of Microbiology, 1995, 164, 396-405.	2.2	39
36	Phytoplankton carbon fixation gene (RuBisCO) transcripts and air-sea CO2 flux in the Mississippi River plume. ISME Journal, 2007, 1, 517-531.	9.8	39

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37	Phototrophic CO2 Fixation: Recent Insights into Ancient Metabolisms. Advances in Photosynthesis and Respiration, 2012, , 225-251.	1.0	38
38	Microbial pathway for anaerobic 5â€²-methylthioadenosine metabolism coupled to ethylene formation. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10455-E10464.	7.1	37
39	Purification of recombinant ribulose-1,5-bisphosphate carboxylase/oxygenase large subunits suitable for reconstitution and assembly of active L8S8 enzyme. Biochemistry, 1990, 29, 9352-9357.	2.5	36
40	Uniform designation for genes of the Calvin-Benson-Bassham reductive pentose phosphate pathway of bacteria. FEMS Microbiology Letters, 1992, 99, 107-110.	1.8	36
41	Structure-Function Studies with the Unique Hexameric Form II Ribulose-1,5-bisphosphate Carboxylase/Oxygenase (Rubisco) from Rhodopseudomonas palustris. Journal of Biological Chemistry, 2014, 289, 21433-21450.	3.4	36
42	Crystal Structure of a RuBisCO-like Protein from the Green Sulfur Bacterium Chlorobium tepidum. Structure, 2005, 13, 779-789.	3.3	34
43	Residues that influencein vivoandin vitroCbbR function inRhodobacter sphaeroidesand identification of a specific region critical for co-inducer recognition. Molecular Microbiology, 2005, 57, 1397-1414.	2.5	33
44	Evidence for a cladeâ€specific temporal and spatial separation in ribulose bisphosphate carboxylase gene expression in phytoplankton populations off Cape Hatteras and Bermuda. Limnology and Oceanography, 1999, 44, 12-23.	3.1	32
45	Inactivation of the monocistronic rca gene in Anabaena variabilis suggests a physiological ribulose bisphosphate carboxylase/oxygenase activase-like function in heterocystous cyanobacteria. Plant Molecular Biology, 1999, 40, 467-478.	3.9	32
46	Expression of glnB and a glnB -Like Gene (glnK) in a Ribulose Bisphosphate Carboxylase/Oxygenase-Deficient Mutant of Rhodobacter sphaeroides. Journal of Bacteriology, 1998, 180, 4644-4649.	2.2	32
47	A Novel Three-Protein Two-Component System Provides a Regulatory Twist on an Established Circuit To Modulate Expression of the cbb I Region of Rhodopseudomonas palustris CGA010. Journal of Bacteriology, 2006, 188, 2780-2791.	2.2	31
48	Substitutions at Methionine 295 of Archaeoglobus fulgidus Ribulose-1,5-bisphosphate Carboxylase/Oxygenase Affect Oxygen Binding and CO2/O2 Specificity. Journal of Biological Chemistry, 2007, 282, 1341-1351.	3.4	31
49	Two Functionally Distinct Regions Upstream of the cbb I Operon of Rhodobacter sphaeroides Regulate Gene Expression. Journal of Bacteriology, 1998, 180, 4903-4911.	2.2	31
50	Metabolic Signals That Lead to Control of CBB Gene Expression in Rhodobacter capsulatus. Journal of Bacteriology, 2002, 184, 1905-1915.	2.2	30
51	Differential Accumulation of Form I RubisCO in Rhodopseudomonas palustris CGA010 under Photoheterotrophic Growth Conditions with Reduced Carbon Sources. Journal of Bacteriology, 2009, 191, 4243-4250.	2.2	30
52	Rubis<scp>CO</scp> selection using the vigorously aerobic and metabolically versatile bacterium Ralstonia eutropha. FEBS Journal, 2016, 283, 2869-2880.	4.7	30
53	Mechanistic Diversity in the RuBisCO Superfamily: A Novel Isomerization Reaction Catalyzed by the RuBisCO-like Protein from Rhodospirillum rubrum. Biochemistry, 2008, 47, 11171-11173.	2.5	28
54	Differential Expression of the CO 2 Fixation Operons of Rhodobacter sphaeroides by the Prr/Reg Two-Component System during Chemoautotrophic Growth. Journal of Bacteriology, 2002, 184, 6654-6664.	2.2	26

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55	Functional metagenomic selection of ribulose 1, 5â€bisphosphate carboxylase/oxygenase from uncultivated bacteria. Environmental Microbiology, 2016, 18, 1187-1199.	3.8	26
56	A Rubisco Mutant That Confers Growth under a Normally â€œInhibitoryâ€•Oxygen Concentration. Biochemistry, 2009, 48, 9076-9083.	2.5	24
57	Synthetic CO2-fixation enzyme cascades immobilized on self-assembled nanostructures that enhance CO2/O2 selectivity of RubisCO. Biotechnology for Biofuels, 2017, 10, 175.	6.2	24
58	Selection of Cyanobacterial (Synechococcus sp. Strain PCC 6301) RubisCO Variants with Improved Functional Properties That Confer Enhanced CO ₂ -Dependent Growth of Rhodobacter capsulatus, a Photosynthetic Bacterium. MBio, 2019, 10, .	4.1	24
59	Up-Regulated Expression of the cbb I and cbb II Operons during Photoheterotrophic Growth of a Ribulose 1,5-Bisphosphate Carboxylase-Oxygenase Deletion Mutant of Rhodobacter sphaeroides. Journal of Bacteriology, 2002, 184, 6721-6724.	2.2	23
60	In Vivo Studies in Rhodospirillum rubrum Indicate That Ribulose-1,5-bisphosphate Carboxylase/Oxygenase (Rubisco) Catalyzes Two Obligatorily Required and Physiologically Significant Reactions for Distinct Carbon and Sulfur Metabolic Pathways. Journal of Biological Chemistry, 2015, 290, 30658-30668.	3.4	23
61	Proteinâ€“protein interactions between CbbR and RegA (PrrA), transcriptional regulators of the cbb operons of Rhodobacter sphaeroides. Molecular Microbiology, 2009, 71, 717-729.	2.5	22
62	The hydroxypropionate pathway of CO ₂ fixation: Fait accompli. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21015-21016.	7.1	20
63	Roles of RubisCO and the RubisCO-Like Protein in 5-Methylthioadenosine Metabolism in the Nonsulfur Purple Bacterium Rhodospirillum rubrum. Journal of Bacteriology, 2010, 192, 1324-1331.	2.2	20
64	The â€œGreenâ€•Form I Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase from the Nonsulfur Purple Bacterium Rhodobacter capsulatus. Journal of Bacteriology, 1999, 181, 3935-3941.	2.2	20
65	Functional Prokaryotic RubisCO from an Oceanic Metagenomic Library. Applied and Environmental Microbiology, 2010, 76, 2997-3003.	3.1	19
66	Further Unraveling the Regulatory Twist by Elucidating Metabolic Coinducer-Mediated CbbR-cbb _I Promoter Interactions in Rhodopseudomonas palustris CGA010. Journal of Bacteriology, 2012, 194, 1350-1360.	2.2	19
67	Isotope discrimination by form IC RubisCO from Ralstonia eutropha and Rhodobacter sphaeroides, metabolically versatile members of â€˜Proteobacteriaâ€™ from aquatic and soil habitats. Environmental Microbiology, 2019, 21, 72-80.	3.8	19
68	Research on Carbon Dioxide Fixation in Photosynthetic Microorganisms (1971â€“present). Photosynthesis Research, 2004, 80, 315-332.	2.9	18
69	A bifunctional salvage pathway for two distinct Sâ€adenosylmethionine byâ€products that is widespread in bacteria, including pathogenic Escherichia coli. Molecular Microbiology, 2020, 113, 923-937.	2.5	18
70	Complex I and Its Involvement in Redox Homeostasis and Carbon and Nitrogen Metabolism in Rhodobacter capsulatus. Journal of Bacteriology, 2001, 183, 7285-7294.	2.2	17
71	1-Methylthio-<scp>d</scp>-xylulose 5-Phosphate Methylsulfurylase: A Novel Route to 1-Deoxy-<scp>d</scp>-xylulose 5-Phosphate in Rhodospirillum rubrum. Biochemistry, 2012, 51, 8324-8326.	2.5	17
72	Serine 363 of a Hydrophobic Region of Archaeal Ribulose 1,5-Bisphosphate Carboxylase/Oxygenase from Archaeoglobus fulgidus and Thermococcus kodakaraensis Affects CO2/O2 Substrate Specificity and Oxygen Sensitivity. PLoS ONE, 2015, 10, e0138351.	2.5	17

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73	Rubisco: The Enzyme that Keeps on Giving. Cell, 2007, 129, 1039-1040.	28.9	16
74	Phosphotransfer Reactions of the CbbRRS Three-Protein Two- Component System from Rhodopseudomonas palustris CGA010 Appear To Be Controlled by an Internal Molecular Switch on the Sensor Kinase. Journal of Bacteriology, 2007, 189, 325-335.	2.2	16
75	Metabolic Regulation as a Consequence of Anaerobic 5-Methylthioadenosine Recycling in Rhodospirillum rubrum. MBio, 2016, 7, .	4.1	15
76	The Arnonâ€“Buchanan cycle: a retrospective, 1966â€“2016. Photosynthesis Research, 2017, 134, 117-131.	2.9	14
77	Integrative Control of Carbon, Nitrogen, Hydrogen, and Sulfur Metabolism: The Central Role of the Calvinâ€“Bensonâ€“Bassham Cycle. Advances in Experimental Medicine and Biology, 2010, 675, 265-271.	1.6	13
78	Induction of carbon monoxide dehydrogenase to facilitate redox balancing in a ribulose bisphosphate carboxylase/oxygenase-deficient mutant strain of Rhodospirillum rubrum. Archives of Microbiology, 2000, 173, 193-199.	2.2	12
79	Glycine 176 Affects Catalytic Properties and Stability of the Synechococcus sp. Strain PCC6301 Ribulose-1,5-bisphosphate Carboxylase/Oxygenase. Journal of Biological Chemistry, 2004, 279, 25632-25637.	3.4	12
80	Unravelling the regulatory twist â€“ regulation of CO₂ fixation in Rhodopseudomonas palustris CGA010 mediated by atypical response regulator(s)^{â€}. Molecular Microbiology, 2011, 80, 756-771.	2.5	12
81	Amino Acid Residues of RegA Important for Interactions with the CbbR-DNA Complex of Rhodobacter sphaeroides. Journal of Bacteriology, 2014, 196, 3179-3190.	2.2	11
82	Two Distinct Aerobic Methionine Salvage Pathways Generate Volatile Methanethiol in Rhodopseudomonas palustris. MBio, 2018, 9, .	4.1	10
83	Carbon Dioxide Metabolism and its Regulation in Nonsulfur Purple Photosynthetic Bacteria. Advances in Photosynthesis and Respiration, 2009, , 563-576.	1.0	10
84	Regulatory Twist and Synergistic Role of Metabolic Coinducer- and Response Regulator-Mediated CbbR- cbb _I Interactions in Rhodopseudomonas palustris CGA010. Journal of Bacteriology, 2013, 195, 1381-1388.	2.2	9
85	Mechanistic Diversity in the RuBisCO Superfamily: RuBisCO from Rhodospirillum rubrum Is Not Promiscuous for Reactions Catalyzed by RuBisCO-like Proteins. Biochemistry, 2012, 51, 9470-9479.	2.5	7
86	Amino acid substitutions in the transcriptional regulator CbbR lead to constitutively active CbbR proteins that elevate expression of the cbb CO2 fixation operons in Ralstonia eutropha (Cupriavidus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 2015, 161, 1816-1829.	1.8	7
87	Structural Perturbations of Rhodopseudomonas palustris Form II RuBisCO Mutant Enzymes That Affect CO₂ Fixation. Biochemistry, 2019, 58, 3880-3892.	2.5	6
88	Carbon Footprint of Biomimetic Carbon Fixation by Immobilizing Natureâ€™s CO₂-sequestering Enzyme and Regenerating Its Energy Carrier. ACS Sustainable Chemistry and Engineering, 2020, 8, 16833-16841.	6.7	6
89	Polypyrrole membranes as scaffolds for biomolecule immobilization. Smart Materials and Structures, 2016, 25, 125033.	3.5	5
90	Phosphoribulokinase mediates nitrogenase-induced carbon dioxide fixation gene repression in Rhodobacter sphaeroides. Microbiology (United Kingdom), 2015, 161, 2184-2191.	1.8	3

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91	Development of a plasmid addicted system that is independent of co-inducers, antibiotics and specific carbon source additions for bioproduct (1-butanol) synthesis in Escherichia coli. Metabolic Engineering Communications, 2015, 2, 6-12.	3.6	2
92	Research on carbon dioxide fixation in photosynthetic microorganisms (1971-present). , 2005, , 771-788.		1
93	Uniform designation for genes of the Calvin-Benson-Bassham reductive pentose phosphate pathway of bacteria. FEMS Microbiology Letters, 1992, 99, 107-110.	1.8	1