Cheng-Cai Zhang

List of Publications by Year
in descending order

75 papers	3,232 citations	201674 27 h-index	155660 55 g-index
76 all docs	76 docs citations	76 times ranked	3102 citing authors

#	Article	IF	Citations
1	Oxidative stress in cyanobacteria. FEMS Microbiology Reviews, 2009, 33, 258-278.	8.6	588
2	Heterocyst differentiation and pattern formation in cyanobacteria: a chorus of signals. Molecular Microbiology, 2006, 59, 367-375.	2.5	272
3	Highly plastic genome of Microcystis aeruginosa PCC 7806, a ubiquitous toxic freshwater cyanobacterium. BMC Genomics, 2008, 9, 274.	2.8	210
4	Bacterial signalling involving eukaryoticâ€type protein kinases. Molecular Microbiology, 1996, 20, 9-15.	2.5	169
5	Nonmetabolizable analogue of 2-oxoglutarate elicits heterocyst differentiation under repressive conditions in <i>Anabaena</i> sp. PCC 7120. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 9907-9912.	7.1	131
6	Carbon/Nitrogen Metabolic Balance: Lessons from Cyanobacteria. Trends in Plant Science, 2018, 23, 1116-1130.	8.8	117
7	Iron Starvation Leads to Oxidative Stress in <i>Anabaena</i> sp. Strain PCC 7120. Journal of Bacteriology, 2005, 187, 6596-6598.	2.2	114
8	Structural basis for the allosteric control of the global transcription factor NtcA by the nitrogen starvation signal 2-oxoglutarate. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12487-12492.	7.1	102
9	Importance of size-to-charge ratio in construction of stable and uniform nanoscale RNA/dendrimer complexes. Organic and Biomolecular Chemistry, 2007, 5, 3674.	2.8	83
10	<i>pkn22</i> (<i>alr2502</i>) encoding a putative Ser/Thr kinase in the cyanobacterium <i>Anabaena</i> sp. PCC 7120 is induced by both iron starvation and oxidative stress and regulates the expression of <i>isiA</i>. FEBS Letters, 2003, 553, 179-182.	2.8	78
11	Expanding the Potential of CRISPR-Cpf1-Based Genome Editing Technology in the Cyanobacterium <i>Anabaena</i> PCC 7120. ACS Synthetic Biology, 2019, 8, 170-180.	3.8	74
12	Coordinating carbon and nitrogen metabolic signaling through the cyanobacterial global repressor NdhR. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 403-408.	7.1	65
13	Inhibition of Cell Division Suppresses Heterocyst Development in Anabaena sp. Strain PCC 7120. Journal of Bacteriology, 2006, 188, 1396-1404.	2.2	64
14	Genomic analysis of protein kinases, protein phosphatases and two-component regulatory systems of the cyanobacterium<i>Anabaena</i>sp. strain PCC 7120. FEMS Microbiology Letters, 2002, 217, 155-165.	1.8	63
15	Molecular and Genetic Analysis of Two Closely Linked Genes That Encode, Respectively, a Protein Phosphatase 1/2A/2B Homolog and a Protein Kinase Homolog in the Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. Journal of Bacteriology, 1998, 180, 2616-2622.	2.2	57
16	An increase in the level of 2-oxoglutarate promotes heterocyst development in the cyanobacterium Anabaena sp. strain PCC 7120. Microbiology (United Kingdom), 2003, 149, 3257-3263.	1.8	51
17	Protein Phosphorylation on Ser, Thr and Tyr Residues in Cyanobacteria. Journal of Molecular Microbiology and Biotechnology, 2005, 9, 154-166.	1.0	45
18	Developmental Regulation of the Cell Division Protein FtsZ in Anabaena sp. Strain PCC 7120, a Cyanobacterium Capable of Terminal Differentiation. Journal of Bacteriology, 2000, 182, 4640-4643.	2.2	42

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19	PrxQ-A, a member of the peroxiredoxin Q family, plays a major role in defense against oxidative stress in the cyanobacterium Anabaena sp. strain PCC7120. Free Radical Biology and Medicine, 2007, 42, 424-431.	2.9	42
20	Crystal Structure of the Cyanobacterial Signal Transduction Protein PII in Complex with PipX. Journal of Molecular Biology, 2010, 402, 552-559.	4.2	36
21	A large gene cluster encoding peptide synthetases and polyketide synthases is involved in production of siderophores and oxidative stress response in the cyanobacterium <i>Anabaena</i> sp. strain PCC 7120. Environmental Microbiology, 2008, 10, 2574-2585.	3.8	35
22	hetR and patS, two genes necessary for heterocyst pattern formation, are widespread in filamentous nonheterocyst-forming cyanobacteria. Microbiology (United Kingdom), 2009, 155, 1418-1426.	1.8	34
23	Two Genes Encoding Protein Kinases of the HstK Family Are Involved in Synthesis of the Minor Heterocyst-Specific Glycolipid in the Cyanobacterium Anabaena sp. Strain PCC 7120. Journal of Bacteriology, 2007, 189, 5075-5081.	2.2	33
24	RNase E forms a complex with polynucleotide phosphorylase in cyanobacteria via a cyanobacterial-specific nonapeptide in the noncatalytic region. Rna, 2014, 20, 568-579.	3.5	33
25	Unravelling the crossâ€talk between iron starvation and oxidative stress responses highlights the key role of <scp>PerR</scp> (<scp>alr</scp>0957) in peroxide signalling in the cyanobacterium <scp><i>N</i></scp><i>ostoc</i>â€…<scp>PCC</scp> 7120. Environmental Microbiology Reports, 2014, 6, 468-475.	2.4	32
26	A Pair of Iron-Responsive Genes Encoding Protein Kinases with a Ser/Thr Kinase Domain and a His Kinase Domain Are Regulated by NtcA in the Cyanobacterium Anabaena sp. Strain PCC 7120. Journal of Bacteriology, 2006, 188, 4822-4829.	2.2	30
27	Relationship among Several Key Cell Cycle Events in the Developmental Cyanobacterium Anabaena sp. Strain PCC 7120. Journal of Bacteriology, 2006, 188, 5958-5965.	2.2	30
28	Structural insights into HetRâˆ’PatS interaction involved in cyanobacterial pattern formation. Scientific Reports, 2015, 5, 16470.	3.3	29
29	Diversity of Growth Patterns Probed in Live Cyanobacterial Cells Using a Fluorescent Analog of a Peptidoglycan Precursor. Frontiers in Microbiology, 2018, 9, 791.	3.5	29
30	Studying the Signaling Role of 2-Oxoglutaric Acid Using Analogs that Mimic the Ketone and Ketal Forms of 2-Oxoglutaric Acid. Chemistry and Biology, 2006, 13, 849-856.	6.0	26
31	A eukaryoticâ€like sulfiredoxin involved in oxidative stress responses and in the reduction of the sulfinic form of 2â€Cys peroxiredoxin in the cyanobacterium <i>Anabaena</i> PCC 7120. New Phytologist, 2011, 191, 1108-1118.	7.3	26
32	Cellâ€type specific modification of PII is involved in the regulation of nitrogen metabolism in the cyanobacterium <i>Anabaena</i> PCC 7120. FEBS Letters, 2004, 576, 261-265.	2.8	24
33	PrpJ, a PP2C-type protein phosphatase located on the plasma membrane, is involved in heterocyst maturation in the cyanobacterium Anabaena sp. PCC 7120. Molecular Microbiology, 2007, 64, 347-358.	2.5	23
34	ppGpp Metabolism Is Involved in Heterocyst Development in the Cyanobacterium Anabaena sp. Strain PCC 7120. Journal of Bacteriology, 2013, 195, 4536-4544.	2.2	23
35	The Making of a Heterocyst in Cyanobacteria. Annual Review of Microbiology, 2022, 76, 597-618.	7.3	23
36	HstK, a cyanobacterial protein with both a serine/threonine kinase domain and a histidine kinase domain: implication for the mechanism of signal transduction. Biochemical Journal, 2001, 360, 639-644.	3.7	21

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37	Cooperative binding and self-assembling behavior of cationic low molecular-weight dendrons with RNA molecules. Organic and Biomolecular Chemistry, 2006, 4, 581.	2.8	20
38	Inactivation of spkD, encoding a Ser/Thr kinase, affects the pool of the TCA cycle metabolites in Synechocystis sp. strain PCC 6803. Microbiology (United Kingdom), 2008, 154, 2161-2167.	1.8	20
39	Phenotypic variation caused by variation in the relative copy number of pDU1-based plasmids expressing the GAF domain of Pkn41 or Pkn42 in Anabaena sp. PCC 7120. Research in Microbiology, 2013, 164, 127-135.	2.1	20
40	Carbon cycle in the microbial ecosystems of biological soil crusts. Soil Biology and Biochemistry, 2022, 171, 108729.	8.8	20
41	HstK, a cyanobacterial protein with both a serine/threonine kinase domain and a histidine kinase domain: implication for the mechanism of signal transduction. Biochemical Journal, 2001, 360, 639.	3.7	18
42	Identification of the oriC region and its influence on heterocyst development in the filamentous cyanobacterium Anabaena sp. strain PCC 7120. Microbiology (United Kingdom), 2011, 157, 1910-1919.	1.8	18
43	Exploring the size limit of protein diffusion through the periplasm in cyanobacterium Anabaena sp. PCC 7120 using the 13ÂkDa iLOV fluorescentÂprotein. Research in Microbiology, 2013, 164, 710-717.	2.1	18
44	Expression of split dnaE genes and trans-splicing of DnaE intein in the developmental cyanobacterium Anabaena sp. PCC 7120. Research in Microbiology, 2006, 157, 227-234.	2.1	16
45	2-Difluoromethylene-4-methylenepentanoic Acid, A Paradoxical Probe Able To Mimic the Signaling Role of 2-Oxoglutaric Acid in Cyanobacteria. Organic Letters, 2011, 13, 2924-2927.	4.6	16
46	Three Substrains of the Cyanobacterium Anabaena sp. Strain PCC 7120 Display Divergence in Genomic Sequences and <i>hetC</i> Function. Journal of Bacteriology, 2018, 200, .	2.2	16
47	Fluorescence resonance energy transfer based on interaction of <scp>PII</scp> and PipX proteins provides a robust and specific biosensor for 2â€oxoglutarate, a central metabolite and a signalling molecule. FEBS Journal, 2014, 281, 1241-1255.	4.7	14
48	Structural Requirements of 2-Oxoglutaric Acid Analogues To Mimic Its Signaling Function. Organic Letters, 2013, 15, 4662-4665.	4.6	13
49	â€œLife is short, and art is longâ€ RNA degradation in cyanobacteria and model bacteria. , 2022, 1, 21-39.		13
50	Mutual Regulation of <i>ntcA</i> and <i>hetR</i> during Heterocyst Differentiation Requires Two Similar PP2C-Type Protein Phosphatases, PrpJ1 and PrpJ2, in <i>Anabaena</i> sp. Strain PCC 7120. Journal of Bacteriology, 2009, 191, 6059-6066.	2.2	11
51	NtcA Regulates <i>patA</i> Expression in <i>Anabaena</i> sp. Strain PCC 7120. Journal of Bacteriology, 2010, 192, 5257-5259.	2.2	11
52	HetF Protein Is a New Divisome Component in a Filamentous and Developmental Cyanobacterium. MBio, 2021, 12, e0138221.	4.1	11
53	High resolution magic angle spinning NMR to investigate ligandâ€“receptor binding events for mass-limited samples in liquids. Journal of Pharmaceutical and Biomedical Analysis, 2012, 59, 13-17.	2.8	9
54	<i>patD</i> , a Gene Regulated by NtcA, Is Involved in the Optimization of Heterocyst Frequency in the Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. Journal of Bacteriology, 2019, 201, .	2.2	9

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55	Functional Dissection of Genes Encoding DNA Polymerases Based on Conditional Mutants in the Heterocyst-Forming Cyanobacterium Anabaena PCC 7120. Frontiers in Microbiology, 2020, 11, 1108.	3.5	9
56	A Lithium-Sensitive and Sodium-Tolerant 3â€²-Phosphoadenosine-5â€²-Phosphatase Encoded by halA from the Cyanobacterium Arthrospira platensis Is Closely Related to Its Counterparts from Yeasts and Plants. Applied and Environmental Microbiology, 2006, 72, 245-251.	3.1	8
57	The Pkn22 Ser/Thr kinase in Nostoc PCC 7120: role of FurA and NtcA regulators and transcript profiling under nitrogen starvation and oxidative stress. BMC Genomics, 2015, 16, 557.	2.8	8
58	The Proposed Neurotoxin Î²-N-Methylamino-l-Alanine (BMAA) Is Taken up through Amino-Acid Transport Systems in the Cyanobacterium Anabaena PCC 7120. Toxins, 2020, 12, 518.	3.4	8
59	The developmental regulator <scp>PatD</scp> modulates assembly of the cellâ€division protein <scp>FtsZ</scp> in the cyanobacterium <i>Anabaena</i> sp. <scp>PCC</scp> 7120. Environmental Microbiology, 2021, 23, 4823-4837.	3.8	8
60	c-di-GMP Homeostasis Is Critical for Heterocyst Development in Anabaena sp. PCC 7120. Frontiers in Microbiology, 2021, 12, 793336.	3.5	8
61	Biosensors-Based In Vivo Quantification of 2-Oxoglutarate in Cyanobacteria and Proteobacteria. Life, 2018, 8, 51.	2.4	7
62	The alr2505 (<i>osiS</i>) gene from <i>Anabaena</i> sp. strain PCC7120 encodes a cysteine desulfurase induced by oxidative stress. FEBS Journal, 2010, 277, 3715-3725.	4.7	5
63	Mimicking the 2-oxoglutaric acid signalling function using molecular probes: insights from structural and functional investigations. Organic and Biomolecular Chemistry, 2014, 12, 4723-4729.	2.8	5
64	A â€œclickâ€•chemistry constructed affinity system for 2-oxoglutaric acid receptors and binding proteins. Organic and Biomolecular Chemistry, 2014, 12, 6470-6475.	2.8	5
65	Dynamics and Cell-Type Specificity of the DNA Double-Strand Break Repair Protein RecN in the Developmental Cyanobacterium Anabaena sp. Strain PCC 7120. PLoS ONE, 2015, 10, e0139362.	2.5	5
66	Characterization of Two Critical Residues in the Effector-Binding Domain of NtcA in the Cyanobacterium Anabaena sp. Strain PCC 7120. Current Microbiology, 2011, 63, 32-38.	2.2	4
67	RNA Interference by Cyanobacterial Feeding Demonstrates the SCSG1 Gene Is Essential for Ciliogenesis during Oral Apparatus Regeneration in Stentor. Microorganisms, 2021, 9, 176.	3.6	4
68	Protein Kinase Inhibitors as Potential Antimicrobial Drugs Against Tuberculosis, Malaria and HIV. Current Pharmaceutical Design, 2017, 23, 4369-4389.	1.9	4
69	Functions of the Essential Gene mraY in Cellular Morphogenesis and Development of the Filamentous Cyanobacterium Anabaena PCC 7120. Frontiers in Microbiology, 2021, 12, 765878.	3.5	4
70	The inositol monophosphatase <scp>All</scp>2917 (<scp>IMPA</scp>1) is involved in osmotic adaptation in <i><scp>A</scp>nabaena</i> sp. <scp>PCC</scp>7120. Environmental Microbiology Reports, 2012, 4, 622-632.	2.4	3
71	ATPase as a switch in P _{II} signal transduction. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12863-12864.	7.1	3
72	Alr5068, a Low-Molecular-Weight protein tyrosine phosphatase, is involved in formation of the heterocysts polysaccharide layer in the cyanobacterium Anabaena sp. PCC 7120. Research in Microbiology, 2013, 164, 875-885.	2.1	2

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73	Preventing Accidental Heterocyst Development in Cyanobacteria. Journal of Bacteriology, 2019, 201, .	2.2	2
74	A tRNA t6A modification system contributes to the sensitivity towards the toxin Î²-N-methylamino-L-alanine (BMAA) in the cyanobacterium Anabaena sp. PCC 7120. Aquatic Toxicology, 2022, 245, 106121.	4.0	2
75	A CRISPR-Based Method for Constructing Conditional Mutations of Essential Genes in Cyanobacteria. Methods in Molecular Biology, 2022, 2377, 143-157.	0.9	1