

# Cheng-Cai Zhang

## List of Publications by Year in descending order

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75  
papers

3,232  
citations

201385

27  
h-index

155451

55  
g-index

76  
all docs

76  
docs citations

76  
times ranked

3102  
citing authors

#	ARTICLE	IF	CITATIONS
1	Oxidative stress in cyanobacteria. <i>FEMS Microbiology Reviews</i> , 2009, 33, 258-278.	3.9	588
2	Heterocyst differentiation and pattern formation in cyanobacteria: a chorus of signals. <i>Molecular Microbiology</i> , 2006, 59, 367-375.	1.2	272
3	Highly plastic genome of <i>Microcystis aeruginosa</i> PCC 7806, a ubiquitous toxic freshwater cyanobacterium. <i>BMC Genomics</i> , 2008, 9, 274.	1.2	210
4	Bacterial signalling involving eukaryotic-type protein kinases. <i>Molecular Microbiology</i> , 1996, 20, 9-15.	1.2	169
5	Nonmetabolizable analogue of 2-oxoglutarate elicits heterocyst differentiation under repressive conditions in <i>Anabaena</i> sp. PCC 7120. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 9907-9912.	3.3	131
6	Carbon/Nitrogen Metabolic Balance: Lessons from Cyanobacteria. <i>Trends in Plant Science</i> , 2018, 23, 1116-1130.	4.3	117
7	Iron Starvation Leads to Oxidative Stress in <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2005, 187, 6596-6598.	1.0	114
8	Structural basis for the allosteric control of the global transcription factor NtcA by the nitrogen starvation signal 2-oxoglutarate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 12487-12492.	3.3	102
9	Importance of size-to-charge ratio in construction of stable and uniform nanoscale RNA/dendrimer complexes. <i>Organic and Biomolecular Chemistry</i> , 2007, 5, 3674.	1.5	83
10	pkn22(alr2502) 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> . <i>FEBS Letters</i> , 2003, 553, 179-182.	1.3	78
11	Expanding the Potential of CRISPR-Cpf1-Based Genome Editing Technology in the Cyanobacterium <i>Anabaena</i> PCC 7120. <i>ACS Synthetic Biology</i> , 2019, 8, 170-180.	1.9	74
12	Coordinating carbon and nitrogen metabolic signaling through the cyanobacterial global repressor NdhR. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 403-408.	3.3	65
13	Inhibition of Cell Division Suppresses Heterocyst Development in <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2006, 188, 1396-1404.	1.0	64
14	Genomic analysis of protein kinases, protein phosphatases and two-component regulatory systems of the cyanobacterium <i>Anabaena</i> sp. strain PCC 7120. <i>FEMS Microbiology Letters</i> , 2002, 217, 155-165.	0.7	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. <i>Journal of Bacteriology</i> , 1998, 180, 2616-2622.	1.0	57
16	An increase in the level of 2-oxoglutarate promotes heterocyst development in the cyanobacterium <i>Anabaena</i> sp. strain PCC 7120. <i>Microbiology (United Kingdom)</i> , 2003, 149, 3257-3263.	0.7	51
17	Protein Phosphorylation on Ser, Thr and Tyr Residues in Cyanobacteria. <i>Journal of Molecular Microbiology and Biotechnology</i> , 2005, 9, 154-166.	1.0	45
18	Developmental Regulation of the Cell Division Protein FtsZ in <i>Anabaena</i> sp. Strain PCC 7120, a Cyanobacterium Capable of Terminal Differentiation. <i>Journal of Bacteriology</i> , 2000, 182, 4640-4643.	1.0	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 <i>Anabaena</i> sp. strain PCC7120. <i>Free Radical Biology and Medicine</i> , 2007, 42, 424-431.	1.3	42
20	Crystal Structure of the Cyanobacterial Signal Transduction Protein PII in Complex with PipX. <i>Journal of Molecular Biology</i> , 2010, 402, 552-559.	2.0	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. <i>Environmental Microbiology</i> , 2008, 10, 2574-2585.	1.8	35
22	hetR and patS, two genes necessary for heterocyst pattern formation, are widespread in filamentous nonheterocyst-forming cyanobacteria. <i>Microbiology (United Kingdom)</i> , 2009, 155, 1418-1426.	0.7	34
23	Two Genes Encoding Protein Kinases of the HstK Family Are Involved in Synthesis of the Minor Heterocyst-Specific Glycolipid in the Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2007, 189, 5075-5081.	1.0	33
24	RNase E forms a complex with polynucleotide phosphorylase in cyanobacteria via a cyanobacterial-specific nonapeptide in the noncatalytic region. <i>Rna</i> , 2014, 20, 568-579.	1.6	33
25	Unravelling the cross-talk between iron starvation and oxidative stress responses highlights the key role of <i>PerR</i> ( <i>alr</i> 0957) in peroxide signalling in the cyanobacterium <i>Nostoc ostoc</i> PCC 7120. <i>Environmental Microbiology Reports</i> , 2014, 6, 468-475.	1.0	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 <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2006, 188, 4822-4829.	1.0	30
27	Relationship among Several Key Cell Cycle Events in the Developmental Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2006, 188, 5958-5965.	1.0	30
28	Structural insights into HetR~PatS interaction involved in cyanobacterial pattern formation. <i>Scientific Reports</i> , 2015, 5, 16470.	1.6	29
29	Diversity of Growth Patterns Probed in Live Cyanobacterial Cells Using a Fluorescent Analog of a Peptidoglycan Precursor. <i>Frontiers in Microbiology</i> , 2018, 9, 791.	1.5	29
30	Studying the Signaling Role of 2-Oxoglutaric Acid Using Analogs that Mimic the Ketone and Ketal Forms of 2-Oxoglutaric Acid. <i>Chemistry and Biology</i> , 2006, 13, 849-856.	6.2	26
31	A eukaryotic-like sulfiredoxin involved in oxidative stress responses and in the reduction of the sulfinic form of 2-Cys peroxiredoxin in the cyanobacterium <i>Anabaena</i> PCC 7120. <i>New Phytologist</i> , 2011, 191, 1108-1118.	3.5	26
32	Cell-type specific modification of PII is involved in the regulation of nitrogen metabolism in the cyanobacterium <i>Anabaena</i> PCC 7120. <i>FEBS Letters</i> , 2004, 576, 261-265.	1.3	24
33	PrpJ, a PP2C-type protein phosphatase located on the plasma membrane, is involved in heterocyst maturation in the cyanobacterium <i>Anabaena</i> sp. PCC 7120. <i>Molecular Microbiology</i> , 2007, 64, 347-358.	1.2	23
34	ppGpp Metabolism Is Involved in Heterocyst Development in the Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2013, 195, 4536-4544.	1.0	23
35	The Making of a Heterocyst in Cyanobacteria. <i>Annual Review of Microbiology</i> , 2022, 76, 597-618.	2.9	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. <i>Biochemical Journal</i> , 2001, 360, 639-644.	1.7	21

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37	Cooperative binding and self-assembling behavior of cationic low molecular-weight dendrons with RNA molecules. <i>Organic and Biomolecular Chemistry</i> , 2006, 4, 581.	1.5	20
38	Inactivation of <i>spkD</i> , encoding a Ser/Thr kinase, affects the pool of the TCA cycle metabolites in <i>Synechocystis</i> sp. strain PCC 6803. <i>Microbiology (United Kingdom)</i> , 2008, 154, 2161-2167.	0.7	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 <i>Anabaena</i> sp. PCC 7120. <i>Research in Microbiology</i> , 2013, 164, 127-135.	1.0	20
40	Carbon cycle in the microbial ecosystems of biological soil crusts. <i>Soil Biology and Biochemistry</i> , 2022, 171, 108729.	4.2	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. <i>Biochemical Journal</i> , 2001, 360, 639.	1.7	18
42	Identification of the <i>oriC</i> region and its influence on heterocyst development in the filamentous cyanobacterium <i>Anabaena</i> sp. strain PCC 7120. <i>Microbiology (United Kingdom)</i> , 2011, 157, 1910-1919.	0.7	18
43	Exploring the size limit of protein diffusion through the periplasm in cyanobacterium <i>Anabaena</i> sp. PCC 7120 using the 13ÅkDa iLOV fluorescent protein. <i>Research in Microbiology</i> , 2013, 164, 710-717.	1.0	18
44	Expression of split <i>dnaE</i> genes and trans-splicing of DnaE intein in the developmental cyanobacterium <i>Anabaena</i> sp. PCC 7120. <i>Research in Microbiology</i> , 2006, 157, 227-234.	1.0	16
45	2-Difluoromethylene-4-methylenepentanoic Acid, A Paradoxical Probe Able To Mimic the Signaling Role of 2-Oxoglutaric Acid in Cyanobacteria. <i>Organic Letters</i> , 2011, 13, 2924-2927.	2.4	16
46	Three Substrains of the Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120 Display Divergence in Genomic Sequences and <i>hetC</i> Function. <i>Journal of Bacteriology</i> , 2018, 200, .	1.0	16
47	Fluorescence resonance energy transfer based on interaction of <i>Pil</i> and <i>PipX</i> proteins provides a robust and specific biosensor for 2-oxoglutarate, a central metabolite and a signalling molecule. <i>FEBS Journal</i> , 2014, 281, 1241-1255.	2.2	14
48	Structural Requirements of 2-Oxoglutaric Acid Analogues To Mimic Its Signaling Function. <i>Organic Letters</i> , 2013, 15, 4662-4665.	2.4	13
49	Life is short, and art is long: 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. <i>Journal of Bacteriology</i> , 2009, 191, 6059-6066.	1.0	11
51	<i>NtcA</i> Regulates <i>patA</i> Expression in <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2010, 192, 5257-5259.	1.0	11
52	HetF Protein Is a New Divisome Component in a Filamentous and Developmental Cyanobacterium. <i>MBio</i> , 2021, 12, e0138221.	1.8	11
53	High resolution magic angle spinning NMR to investigate ligand-receptor binding events for mass-limited samples in liquids. <i>Journal of Pharmaceutical and Biomedical Analysis</i> , 2012, 59, 13-17.	1.4	9
54	<i>patD</i> , a Gene Regulated by <i>NtcA</i> , Is Involved in the Optimization of Heterocyst Frequency in the Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. <i>Journal of Bacteriology</i> , 2019, 201, .	1.0	9

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55	Functional Dissection of Genes Encoding DNA Polymerases Based on Conditional Mutants in the Heterocyst-Forming Cyanobacterium <i>Anabaena</i> PCC 7120. <i>Frontiers in Microbiology</i> , 2020, 11, 1108.	1.5	9
56	A Lithium-Sensitive and Sodium-Tolerant 3-Phosphoadenosine-5-Phosphatase Encoded by <i>halA</i> from the Cyanobacterium <i>Arthrospira platensis</i> Is Closely Related to Its Counterparts from Yeasts and Plants. <i>Applied and Environmental Microbiology</i> , 2006, 72, 245-251.	1.4	8
57	The Pkn22 Ser/Thr kinase in <i>Nostoc</i> PCC 7120: role of FurA and NtcA regulators and transcript profiling under nitrogen starvation and oxidative stress. <i>BMC Genomics</i> , 2015, 16, 557.	1.2	8
58	The Proposed Neurotoxin $\beta$ -N-Methylamino-L-Alanine (BMAA) Is Taken up through Amino-Acid Transport Systems in the Cyanobacterium <i>Anabaena</i> PCC 7120. <i>Toxins</i> , 2020, 12, 518.	1.5	8
59	The developmental regulator <i>PatD</i> modulates assembly of the cell division protein <i>FtsZ</i> in the cyanobacterium <i>Anabaena</i> sp. PCC 7120. <i>Environmental Microbiology</i> , 2021, 23, 4823-4837.	1.8	8
60	c-di-GMP Homeostasis Is Critical for Heterocyst Development in <i>Anabaena</i> sp. PCC 7120. <i>Frontiers in Microbiology</i> , 2021, 12, 793336.	1.5	8
61	Biosensors-Based In Vivo Quantification of 2-Oxoglutarate in Cyanobacteria and Proteobacteria. <i>Life</i> , 2018, 8, 51.	1.1	7
62	The <i>alr2505</i> ( <i>osiS</i> ) gene from <i>Anabaena</i> sp. strain PCC7120 encodes a cysteine desulfurase induced by oxidative stress. <i>FEBS Journal</i> , 2010, 277, 3715-3725.	2.2	5
63	Mimicking the 2-oxoglutaric acid signalling function using molecular probes: insights from structural and functional investigations. <i>Organic and Biomolecular Chemistry</i> , 2014, 12, 4723-4729.	1.5	5
64	A click-chemistry constructed affinity system for 2-oxoglutaric acid receptors and binding proteins. <i>Organic and Biomolecular Chemistry</i> , 2014, 12, 6470-6475.	1.5	5
65	Dynamics and Cell-Type Specificity of the DNA Double-Strand Break Repair Protein RecN in the Developmental Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. <i>PLoS ONE</i> , 2015, 10, e0139362.	1.1	5
66	Characterization of Two Critical Residues in the Effector-Binding Domain of NtcA in the Cyanobacterium <i>Anabaena</i> sp. Strain PCC 7120. <i>Current Microbiology</i> , 2011, 63, 32-38.	1.0	4
67	RNA Interference by Cyanobacterial Feeding Demonstrates the <i>SCSG1</i> Gene Is Essential for Ciliogenesis during Oral Apparatus Regeneration in <i>Stentor</i> . <i>Microorganisms</i> , 2021, 9, 176.	1.6	4
68	Protein Kinase Inhibitors as Potential Antimicrobial Drugs Against Tuberculosis, Malaria and HIV. <i>Current Pharmaceutical Design</i> , 2017, 23, 4369-4389.	0.9	4
69	Functions of the Essential Gene <i>mraY</i> in Cellular Morphogenesis and Development of the Filamentous Cyanobacterium <i>Anabaena</i> PCC 7120. <i>Frontiers in Microbiology</i> , 2021, 12, 765878.	1.5	4
70	The inositol monophosphatase <i>All</i> 2917 ( <i>IMPA</i> 1) is involved in osmotic adaptation in <i>Anabaena</i> sp. PCC7120. <i>Environmental Microbiology Reports</i> , 2012, 4, 622-632.	1.0	3
71	ATPase as a switch in P <sub>II</sub> signal transduction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 12863-12864.	3.3	3
72	Alr5068, a Low-Molecular-Weight protein tyrosine phosphatase, is involved in formation of the heterocysts polysaccharide layer in the cyanobacterium <i>Anabaena</i> sp. PCC 7120. <i>Research in Microbiology</i> , 2013, 164, 875-885.	1.0	2

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73	Preventing Accidental Heterocyst Development in Cyanobacteria. <i>Journal of Bacteriology</i> , 2019, 201, .	1.0	2
74	A tRNA t6A modification system contributes to the sensitivity towards the toxin $\beta$ -N-methylamino-L-alanine (BMAA) in the cyanobacterium <i>Anabaena</i> sp. PCC 7120. <i>Aquatic Toxicology</i> , 2022, 245, 106121.	1.9	2
75	A CRISPR-Based Method for Constructing Conditional Mutations of Essential Genes in Cyanobacteria. <i>Methods in Molecular Biology</i> , 2022, 2377, 143-157.	0.4	1