

# A Novel P1B-type Mn<sup>2+</sup>-transporting ATPase Is Required for Growth of Mycobacteria

Journal of Biological Chemistry

288, 11334-11347

DOI: [10.1074/jbc.m112.448175](https://doi.org/10.1074/jbc.m112.448175)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Bacterial killing in macrophages and amoeba: do they all use a brass dagger?. <i>Future Microbiology</i> , 2013, 8, 1257-1264.	1.0	67
2	Mechanisms of copper homeostasis in bacteria. <i>Frontiers in Cellular and Infection Microbiology</i> , 2013, 3, 73.	1.8	193
3	Zinc and copper toxicity in host defense against pathogens: Mycobacterium tuberculosis as a model example of an emerging paradigm. <i>Frontiers in Cellular and Infection Microbiology</i> , 2013, 3, 89.	1.8	43
4	Role of transition metal exporters in virulence: the example of <i>Neisseria meningitidis</i> . <i>Frontiers in Cellular and Infection Microbiology</i> , 2013, 3, 102.	1.8	21
5	Manganese Transport, Trafficking and Function in Invertebrates. <i>Issues in Toxicology</i> , 2014, , 1-33.	0.2	10
6	Metal Ion Homeostasis in <i>Listeria monocytogenes</i> and Importance in Host-Pathogen Interactions. <i>Advances in Microbial Physiology</i> , 2014, 65, 83-123.	1.0	21
7	Metallobiology of Tuberculosis. <i>Microbiology Spectrum</i> , 2014, 2, .	1.2	24
8	Manipulation of the Mononuclear Phagocyte System by <i>Mycobacterium tuberculosis</i> . <i>Cold Spring Harbor Perspectives in Medicine</i> , 2014, 4, a018549-a018549.	2.9	31
9	Differential roles for the <i>Cop</i> and <i>Nix</i> transporting ATPases, <i>CtpD</i> and <i>CtpJ</i> , in <i>Mycobacterium tuberculosis</i> virulence. <i>Molecular Microbiology</i> , 2014, 91, 185-197.	1.2	52
10	Diversity of the metal-transporting P1B-type ATPases. <i>Journal of Biological Inorganic Chemistry</i> , 2014, 19, 947-960.	1.1	98
11	The Oxidative Stress Network of <i>Mycobacterium tuberculosis</i> Reveals Coordination between Radical Detoxification Systems. <i>Cell Host and Microbe</i> , 2015, 17, 829-837.	5.1	131
12	New insights into <i>TB</i> physiology suggest untapped therapeutic opportunities. <i>Immunological Reviews</i> , 2015, 264, 327-343.	2.8	23
13	Mycobacteria, metals, and the macrophage. <i>Immunological Reviews</i> , 2015, 264, 249-263.	2.8	178
14	Structure and Function of Cu(I)- and Zn(II)-ATPases. <i>Biochemistry</i> , 2015, 54, 5673-5683.	1.2	43
15	CtpA, a putative <i>Mycobacterium tuberculosis</i> P-type ATPase, is stimulated by copper (I) in the mycobacterial plasma membrane. <i>BioMetals</i> , 2015, 28, 713-724.	1.8	16
16	Macrophage defense mechanisms against intracellular bacteria. <i>Immunological Reviews</i> , 2015, 264, 182-203.	2.8	724
17	Fine-tuning of Substrate Affinity Leads to Alternative Roles of <i>Mycobacterium tuberculosis</i> Fe <sup>2+</sup> -ATPases. <i>Journal of Biological Chemistry</i> , 2016, 291, 11529-11539.	1.6	36
18	Bacterial Strategies to Maintain Zinc Metallostasis at the Host-Pathogen Interface. <i>Journal of Biological Chemistry</i> , 2016, 291, 20858-20868.	1.6	131

#	ARTICLE	IF	CITATIONS
19	Bacterial Cu <sup>+</sup> -ATPases: models for molecular structure–function studies. <i>Metallomics</i> , 2016, 8, 906-914.	1.0	24
20	Functional Determinants of Metal Ion Transport and Selectivity in Paralogous Cation Diffusion Facilitator Transporters CzcD and MntE in <i>Streptococcus pneumoniae</i> . <i>Journal of Bacteriology</i> , 2016, 198, 1066-1076.	1.0	53
21	Characterization of a putative ArsR transcriptional regulator encoded by <i>Rv2642</i> from <i>Mycobacterium tuberculosis</i> . <i>Journal of Biomolecular Structure and Dynamics</i> , 2017, 35, 2031-2039.	2.0	9
22	In silico approaches and chemical space of anti-P <sub>1</sub> -type ATPase compounds for discovering new antituberculous drugs. <i>Chemical Biology and Drug Design</i> , 2017, 90, 175-187.	1.5	3
23	Nitric oxide prevents a pathogen-permissive granulocytic inflammation during tuberculosis. <i>Nature Microbiology</i> , 2017, 2, 17072.	5.9	222
24	A genome-wide structure-based survey of nucleotide binding proteins in <i>M. tuberculosis</i> . <i>Scientific Reports</i> , 2017, 7, 12489.	1.6	5
25	Elemental Ingredients in the Macrophage Cocktail: Role of ZIP8 in Host Response to <i>Mycobacterium tuberculosis</i> . <i>International Journal of Molecular Sciences</i> , 2017, 18, 2375.	1.8	27
26	Structure–function analysis of manganese exporter proteins across bacteria. <i>Journal of Biological Chemistry</i> , 2018, 293, 5715-5730.	1.6	44
27	Chemical Warfare at the Microorganismal Level: A Closer Look at the Superoxide Dismutase Enzymes of Pathogens. <i>ACS Infectious Diseases</i> , 2018, 4, 893-903.	1.8	28
28	<i>Rv2477c</i> is an antibiotic-sensitive manganese-dependent ABC-F ATPase in <i>Mycobacterium tuberculosis</i> . <i>Biochemical and Biophysical Research Communications</i> , 2018, 495, 35-40.	1.0	15
29	Unprecedented in Vitro Antitubercular Activity of Manganese(II) Complexes Containing 1,10-Phenanthroline and Dicarboxylate Ligands: Increased Activity, Superior Selectivity, and Lower Toxicity in Comparison to Their Copper(II) Analogs. <i>Frontiers in Microbiology</i> , 2018, 9, 1432.	1.5	22
30	Differential expression of zinc transporters accompanies the differentiation of C2C12 myoblasts. <i>Journal of Trace Elements in Medicine and Biology</i> , 2018, 49, 27-34.	1.5	23
31	Heavy-Metal-Resistant Microorganisms in Deep-Sea Sediments Disturbed by Mining Activity: An Application Toward the Development of Experimental in vitro Systems. <i>Frontiers in Marine Science</i> , 2019, 6, .	1.2	25
32	Identification, Functional Characterization, and Regulon Prediction of the Zinc Uptake Regulator ( <i>zur</i> ) of <i>Bacillus anthracis</i> – An Insight Into the Zinc Homeostasis of the Pathogen. <i>Frontiers in Microbiology</i> , 2018, 9, 3314.	1.5	20
33	<i>Rv2617c</i> and <i>P36</i> are virulence factors of pathogenic mycobacteria involved in resistance to oxidative stress. <i>Virulence</i> , 2019, 10, 1026-1033.	1.8	11
34	The P-type ATPase <i>CtpF</i> is a plasma membrane transporter mediating calcium efflux in <i>Mycobacterium tuberculosis</i> cells. <i>Heliyon</i> , 2019, 5, e02852.	1.4	12
35	Proteomic characterization of <i>Mycobacterium tuberculosis</i> reveals potential targets of bostrycin. <i>Journal of Proteomics</i> , 2020, 212, 103576.	1.2	11
36	Identification of <i>Mycobacterium tuberculosis</i> <i>CtpF</i> as a target for designing new antituberculous compounds. <i>Bioorganic and Medicinal Chemistry</i> , 2020, 28, 115256.	1.4	7

#	ARTICLE	IF	CITATIONS
37	A novel stress-inducible CmtR-ESX3-Zn <sup>2+</sup> regulatory pathway essential for survival of <i>Mycobacterium bovis</i> under oxidative stress. <i>Journal of Biological Chemistry</i> , 2020, 295, 17083-17099.	1.6	11
38	<i>Mycobacterium tuberculosis</i> Calcium Pump CtpF Modulates the Autophagosome in an mTOR-Dependent Manner. <i>Frontiers in Cellular and Infection Microbiology</i> , 2020, 10, 461.	1.8	13
39	In Vivo Imaging with Genetically Encoded Redox Biosensors. <i>International Journal of Molecular Sciences</i> , 2020, 21, 8164.	1.8	33
40	Impact of Different Trace Elements on the Growth and Proteome of Two Strains of <i>Granulicella</i> , Class <i>Acidobacteriia</i> . <i>Frontiers in Microbiology</i> , 2020, 11, 1227.	1.5	15
41	Bacterial manganese sensing and homeostasis. <i>Current Opinion in Chemical Biology</i> , 2020, 55, 96-102.	2.8	38
42	CtpB is a plasma membrane copper (I) transporting P-type ATPase of <i>Mycobacterium tuberculosis</i> . <i>Biological Research</i> , 2020, 53, 6.	1.5	16
43	Long-term application of Swedish sewage sludge on farmland does not cause clear changes in the soil bacterial resistome. <i>Environment International</i> , 2020, 137, 105339.	4.8	38
44	Role of biological macromolecules of microbes in metal bioremediation. , 2021, , 497-529.		0
45	Zn <sup>2+</sup> Intoxication of <i>Mycobacterium marinum</i> during <i>Dictyostelium discoideum</i> Infection Is Counteracted by Induction of the Pathogen Zn <sup>2+</sup> Exporter CtpC. <i>MBio</i> , 2021, 12, .	1.8	12
46	Acenaphthene biodegradation and structural and functional metagenomics of the microbial community of an acenaphthene-enriched animal charcoal polluted soil. <i>Biocatalysis and Agricultural Biotechnology</i> , 2021, 32, 101951.	1.5	6
47	Nutritional immunity: the impact of metals on lung immune cells and the airway microbiome during chronic respiratory disease. <i>Respiratory Research</i> , 2021, 22, 133.	1.4	32
49	Use of Cell Envelope Targeting Antibiotics and Antimicrobial Agents as a Powerful Tool to Select for Lactic Acid Bacteria Strains With Improved Texturizing Ability in Milk Fermentations. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 623700.	2.0	1
50	Assay of Copper Transfer and Binding to P1B-ATPases. <i>Methods in Molecular Biology</i> , 2016, 1377, 267-277.	0.4	5
52	Metallobiology of Tuberculosis. , 0, , 377-387.		2
53	A Unique Reverse Adaptation Mechanism Assists <i>Bordetella pertussis</i> in Resistance to Both Scarcity and Toxicity of Manganese. <i>MBio</i> , 2021, 12, e0190221.	1.8	3
54	The Role of ZntA in <i>Klebsiella pneumoniae</i> Zinc Homeostasis. <i>Microbiology Spectrum</i> , 2022, 10, e0177321.	1.2	12
55	MntP and YiiP Contribute to Manganese Efflux in <i>Salmonella enterica</i> Serovar Typhimurium under Conditions of Manganese Overload and Nitrosative Stress. <i>Microbiology Spectrum</i> , 2022, 10, e0131621.	1.2	12
57	A Novel Zinc Exporter CtpG Enhances Resistance to Zinc Toxicity and Survival in <i>Mycobacterium bovis</i> . <i>Microbiology Spectrum</i> , 2022, , e0145621.	1.2	2

#	ARTICLE	IF	CITATIONS
70	Distinct gene clusters drive formation of ferrosome organelles in bacteria. <i>Nature</i> , 2022, 606, 160-164.	13.7	15
71	The <i>ctpF</i> Gene Encoding a Calcium P-Type ATPase of the Plasma Membrane Contributes to Full Virulence of <i>Mycobacterium tuberculosis</i> . <i>International Journal of Molecular Sciences</i> , 2022, 23, 6015.	1.8	1
72	Hit Compounds and Associated Targets in Intracellular <i>Mycobacterium tuberculosis</i> . <i>Molecules</i> , 2022, 27, 4446.	1.7	0
73	<i>Mycobacterial</i> resistance to zinc poisoning requires assembly of P-ATPase-containing membrane metal efflux platforms. <i>Nature Communications</i> , 2022, 13, .	5.8	7
74	Comparative transcriptomic analysis of <i>Stenotrophomonas</i> sp. MNB17 revealed mechanisms of manganese tolerance at different concentrations and the role of histidine biosynthesis in manganese removal. <i>Ecotoxicology and Environmental Safety</i> , 2022, 244, 114056.	2.9	8
75	Revealing the diversity of bacteria and fungi in the active layer of permafrost at Spitsbergen island (Arctic) – Combining classical microbiology and metabarcoding for ecological and bioprospecting exploration. <i>Science of the Total Environment</i> , 2023, 856, 159072.	3.9	4
77	Iron deprivation enhances transcriptional responses to in vitro growth arrest of <i>Mycobacterium tuberculosis</i> . <i>Frontiers in Microbiology</i> , 0, 13, .	1.5	1
78	The mitochondrial Cu <sup>+</sup> transporter PiC2 (SLC25A3) is a target of MTF1 and contributes to the development of skeletal muscle in vitro. <i>Frontiers in Molecular Biosciences</i> , 0, 9, .	1.6	6
79	Why is manganese so valuable to bacterial pathogens?. <i>Frontiers in Cellular and Infection Microbiology</i> , 0, 13, .	1.8	1
80	Manganese Efflux Achieved by MetA and MetB Affects Oxidative Stress Resistance and Iron Homeostasis in <i>Riemerella anatipestifer</i> . <i>Applied and Environmental Microbiology</i> , 2023, 89, .	1.4	5
81	P-Type ATPases: A Relevant Component in <i>Mycobacterium tuberculosis</i> Viability. <i>Integrated Science</i> , 2023, , 459-481.	0.1	0
85	Cellular zinc metabolism and zinc signaling: from biological functions to diseases and therapeutic targets. <i>Signal Transduction and Targeted Therapy</i> , 2024, 9, .	7.1	0