

## TABLE OF CONTENTS

### ARTICLES

<b>Steady-State Hydrogen Peroxide Induces Glycolysis in <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i></b>	Xin Deng, Haihua Liang, Olesya A. Ulanovskaya, Qianjiang Ji, Tianhong Zhou, Fei Sun, Zhike Lu, Alan L. Hutchison, Lefu Lan, Min Wu, Benjamin F. Cravatt, Chuan He	2499–2513
<b>Effects of (p)ppGpp on the Progression of the Cell Cycle of <i>Caulobacter crescentus</i></b>	Diego Gonzalez, Justine Collier	2514–2525
<b>A Putative Bifunctional Histidine Kinase/Phosphatase of the HWE Family Exerts Positive and Negative Control on the <i>Sinorhizobium meliloti</i> General Stress Response</b>	Laurent Sauviac, Claude Bruand	2526–2535
<b>Aggregation Interplay between Variants of the RepA-WH1 Prionoid in <i>Escherichia coli</i></b>	Laura Molina-García, Rafael Giraldo	2536–2542
<b>Genetic Analysis of the Assimilation of C<sub>5</sub>-Dicarboxylic Acids in <i>Pseudomonas aeruginosa</i> PAO1</b>	Benjamin R. Lundgren, Luis Roberto Villegas-Peñaranda, Joshua R. Harris, Alexander M. Mottern, Diana M. Dunn, Christopher N. Boddy, Christopher T. Nomura	2543–2551
<b>The Terminal Oxidase <i>cbb</i><sub>3</sub> Functions in Redox Control of Magnetite Biomineralization in <i>Magnetospirillum gryphiswaldense</i></b>	Yingjie Li, Oliver Raschdorf, Karen T. Silva, Dirk Schüller	2552–2562
<b><i>Streptococcus pyogenes</i> Polymyxin B-Resistant Mutants Display Enhanced ExPortal Integrity</b>	Gary C. Port, Luis A. Vega, Andrew B. Nylander, Michael G. Caparon	2563–2577
<b>NtrBC and Nac Contribute to Efficient <i>Shigella flexneri</i> Intracellular Replication</b>	Chelsea D. Waddell, Thomas J. Walter, Sophia A. Pacheco, Georgiana E. Purdy, Laura J. Runyen-Janecky	2578–2586
<b>Novel MntR-Independent Mechanism of Manganese Homeostasis in <i>Escherichia coli</i> by the Ribosome-Associated Protein HflX</b>	Gursharan Kaur, Sandeepan Sengupta, Vineet Kumar, Aruna Kumari, Aditi Ghosh, Pradeep Parrack, Dipak Dutta	2587–2597
<b>Expression of Each Cistron in the <i>gal</i> Operon Can Be Regulated by Transcription Termination and Generation of a <i>galK</i>-Specific mRNA, mk2</b>	Xun Wang, Sang Chun Ji, Sang Hoon Yun, Heung Jin Jeon, Si Wouk Kim, Heon M. Lim	2598–2606
<b>How Many Initiator tRNA Genes Does <i>Escherichia coli</i> Need?</b>	Laasya Samhita, Vidyandand Nanjundiah, Umesh Varshney	2607–2615
<b><i>Acinetobacter baumannii</i> Response to Host-Mediated Zinc Limitation Requires the Transcriptional Regulator Zur</b>	Brittany L. Mortensen, Subodh Rathi, Walter J. Chazin, Eric P. Skaar	2616–2626
<b>Identification and Characterization of Glycoproteins on the Spore Surface of <i>Clostridium difficile</i></b>	Philippa C. R. Strong, Kelly M. Fulton, Annie Aubry, Simon Foote, Susan M. Twine, Susan M. Logan	2627–2637
<b>The Rip1 Protease of <i>Mycobacterium tuberculosis</i> Controls the SigD Regulon</b>	Jessica S. Schneider, Joseph G. Sklar, Michael S. Glickman	2638–2645
<b>HupB, a Nucleoid-Associated Protein of <i>Mycobacterium tuberculosis</i>, Is Modified by Serine/Threonine Protein Kinases <i>In Vivo</i></b>	Meetu Gupta, Andaleeb Sajid, Kirti Sharma, Soumitra Ghosh, Gunjan Arora, Ramandeep Singh, Valakunja Nagaraja, Vibha Tandon, Yogendra Singh	2646–2657

<b>Genetic Dissection of the <i>mamAB</i> and <i>mms6</i> Operons Reveals a Gene Set Essential for Magnetosome Biogenesis in <i>Magnetospirillum gryphiswaldense</i></b>	Anna Lohße, Sarah Borg, Oliver Raschdorf, Isabel Kolinko, Éva Tompa, Mihály Pósfai, Damien Faivre, Jens Baumgartner, Dirk Schüler	2658–2669
<b>Tolerance of a Phage Element by <i>Streptococcus pneumoniae</i> Leads to a Fitness Defect during Colonization</b>	Hilary K. DeBardleben, Elena S. Lysenko, Ankur B. Dalia, Jeffrey N. Weiser	2670–2680
<b>PvdP Is a Tyrosinase That Drives Maturation of the Pyoverdine Chromophore in <i>Pseudomonas aeruginosa</i></b>	Pol Nadal-Jimenez, Gudrun Koch, Carlos R. Reis, Remco Muntendam, Hans Raj, C. Margot Jeronimus-Stratingh, Robbert H. Cool, Wim J. Quax	2681–2690
<b>Alginate-Dependent Gene Expression Mechanism in <i>Sphingomonas</i> sp. Strain A1</b>	Chie Hayashi, Ryuichi Takase, Keiko Momma, Yukie Maruyama, Kousaku Murata, Wataru Hashimoto	2691–2700
<b>The <i>adnAB</i> Locus, Encoding a Putative Helicase-Nuclease Activity, Is Essential in <i>Streptomyces</i></b>	Lingli Zhang, Hoang Chuong Nguyen, Ludovic Chipot, Emilie Piotrowski, Claire Bertrand, Annabelle Thibessard, Pierre Leblond	2701–2708

Cover photograph (Copyright © 2014, American Society for Microbiology. All Rights Reserved.): Manganese stress induces filamentation of *Escherichia coli*  $\Delta hflX$  cells, suggesting that HflX is involved in manganese homeostasis. This manganese-sensitive phenotype of the *E. coli*  $\Delta hflX$  strain is the result of a slow replication fork, DNA damage, and the SOS response. The confocal microscopic image of filamentous *E. coli*  $\Delta hflX$ , which was engineered to express *recA-gfp* as a single transcription unit from the chromosome, shows green fluorescent foci in the cell under manganese stress. RecA is known to be induced by the SOS response. The foci represent the formation of RecA-green fluorescent protein filaments at sites of DNA damage. (See related article on page 2587.)