

# JOURNAL OF BACTERIOLOGY

Volume 189

January 2007

No. 1

## INSTRUCTIONS TO AUTHORS

2007 Instructions to Authors

1–19

## GENOMICS AND PROTEOMICS

Complete Sequence Analysis of Novel Plasmids from Emetic and Periodontal *Bacillus cereus* Isolates Reveals a Common Evolutionary History among the *B. cereus*-Group Plasmids, Including *Bacillus anthracis* pXO1

David A. Rasko, M. J. Rosovitz, Ole Andreas Økstad, Derrick E. Fouts, Lingxia Jiang, Regina Z. Cer, Anne-Brit Kolstø, Steven R. Gill, and Jacques Ravel

52–64

Transcriptional Regulation of the *yghJ-pppA-yghG-gspCDEFGHIJKLM* Cluster, Encoding the Type II Secretion Pathway in Enterotoxigenic *Escherichia coli*

Ji Yang, Deborah L. Baldi, Marija Tauschek, Richard A. Strugnell, and Roy M. Robins-Browne

142–150

Response of *Staphylococcus aureus* to Salicylate Challenge

James T. Riordan, Arunachalam Muthaiyan, Wayne Van Voorhies, Christopher T. Price, James E. Graham, Brian J. Wilkinson, and John E. Gustafson

220–227

## MOLECULAR BIOLOGY OF PATHOGENS

Genome Sequence of Avery's Virulent Serotype 2 Strain D39 of *Streptococcus pneumoniae* and Comparison with That of Unencapsulated Laboratory Strain R6

Joel A. Lanie, Wai-Leung Ng, Krystyna M. Kazmierczak, Tiffany M. Andrzejewski, Tanja M. Davidsen, Kyle J. Wayne, Hervé Tettelin, John I. Glass, and Malcolm E. Winkler

38–51

Characterization of the *Moraxella catarrhalis* Opa-Like Protein, OIpA, Reveals a Phylogenetically Conserved Family of Outer Membrane Proteins

Michael J. Brooks, Cassie A. Laurence, Eric J. Hansen, and Scott D. Gray-Owen

76–82

Mutations in the *Yersinia pseudotuberculosis* Type III Secretion System Needle Protein, YscF, That Specifically Abrogate Effector Translocation into Host Cells

Alison J. Davis and Joan Mecsas

83–97

FtcR Is a New Master Regulator of the Flagellar System of *Brucella melitensis* 16M with Homologs in *Rhizobiaceae*

S. Léonard, J. Ferooz, V. Haine, I. Danese, D. Fretin, A. Tibor, S. de Walque, X. De Bolle, and J.-J. Letesson

131–141

Analysis of the Roles of FlgP and FlgQ in Flagellar Motility of *Campylobacter jejuni*

Shawn M. Sommerlad and David R. Hendrixson

179–186

Chlamydial Type III Secretion System Is Encoded on Ten Operons Preceded by Sigma 70-Like Promoter Elements

P. Scott Hefty and Richard S. Stephens

198–206

## MICROBIAL COMMUNITIES AND INTERACTIONS

Differentiation and Distribution of Colistin- and Sodium Dodecyl Sulfate-Tolerant Cells in *Pseudomonas aeruginosa* Biofilms

Janus A. J. Haagenen, Mikkel Klausen, Robert K. Ernst, Samuel I. Miller, Anders Folkesson, Tim Tolker-Nielsen, and Søren Molin

28–37

Phenotypic Diversification and Adaptation of *Serratia marcescens* MG1 Biofilm-Derived Morphotypes

Kai Shyang Koh, Kin Wai Lam, Morten Alhede, Shu Yeong Queck, Maurizio Labbate, Staffan Kjelleberg, and Scott A. Rice

119–130

Continued on following page

## GENE REGULATION

<b>Conversion of Methionine to Cysteine in <i>Bacillus subtilis</i> and Its Regulation</b>	Marie-Françoise Hullo, Sandrine Auger, Olga Soutourina, Octavian Barzu, Mireille Yvon, Antoine Danchin, and Isabelle Martin-Verstraete	187–197
<b>The RpoT Regulon of <i>Pseudomonas putida</i> DOT-T1E and Its Role in Stress Endurance against Solvents</b>	Estrella Duque, José-Juan Rodríguez-Herva, Jesús de la Torre, Patricia Domínguez-Cuevas, Jesús Muñoz-Rojas, and Juan-Luis Ramos	207–219
<b>Linker Regions of the RhaS and RhaR Proteins</b>	Ana Kolin, Visnja Jevtic, Liskin Swint-Kruse, and Susan M. Egan	269–271

## MICROBIAL CELL BIOLOGY

<b>Role of FtsEX in Cell Division of <i>Escherichia coli</i>: Viability of <i>ftsEX</i> Mutants Is Dependent on Functional SufI or High Osmotic Strength</b>	Manjula Reddy	98–108
<b>The C-Terminal Domain of MinC Inhibits Assembly of the Z Ring in <i>Escherichia coli</i></b>	Daisuke Shiomi and William Margolin	236–243
<b>Characterization of <i>lptA</i> and <i>lptB</i>, Two Essential Genes Implicated in Lipopolysaccharide Transport to the Outer Membrane of <i>Escherichia coli</i></b>	Paola Sperandeo, Rachele Cescutti, Riccardo Villa, Cristiano Di Benedetto, Daniela Candia, Gianni Dehò, and Alessandra Polissi	244–253
<b>Influence of Wall Teichoic Acid on Lysozyme Resistance in <i>Staphylococcus aureus</i></b>	Agnieszka Bera, Raja Biswas, Silvia Herbert, Emir Kulauzovic, Christopher Weidenmaier, Andreas Peschel, and Friedrich Götz	280–283

## GENETICS AND MOLECULAR BIOLOGY

<b>Functional Analysis of the Carboxy-Terminal Region of <i>Bacillus subtilis</i> TnrA, a MerR Family Protein</b>	Lewis V. Wray, Jr., and Susan H. Fisher	20–27
<b>Glucose Uptake Pathway-Specific Regulation of Synthesis of Neotrehalosadiamine, a Novel Autoinducer Produced in <i>Bacillus subtilis</i></b>	Takashi Inaoka and Kozo Ochi	65–75
<b>Glycosylation of <i>Pseudomonas aeruginosa</i> Strain Pa5196 Type IV Pilins with Mycobacterium-Like <math>\alpha</math>-1,5-Linked D-Araf Oligosaccharides</b>	Sébastien Voisin, Julianne V. Kus, Scott Houlston, Frank St-Michael, Dave Watson, Dennis G. Cvitkovitch, John Kelly, Jean-Robert Brisson, and Lori L. Burrows	151–159
<b><math>\beta</math>-D-Allose Inhibits Fruiting Body Formation and Sporulation in <i>Myxococcus xanthus</i></b>	Marielena Chavira, Nga Cao, Karen Le, Tanveer Riar, Navid Moradshahi, Melinda McBride, Renate Lux, and Wenyan Shi	169–178
<b><i>Bacillus subtilis</i> Gene Cluster Involved in Calcium Carbonate Biomineralization</b>	Chiara Barabesi, Alessandro Galizzi, Giorgio Mastromei, Mila Rossi, Elena Tamburini, and Brunella Perito	228–235
<b>Proteolytic Adaptor for Transfer-Messenger RNA-Tagged Proteins from <math>\alpha</math>-Proteobacteria</b>	Faith H. Lessner, Bryan J. Venters, and Kenneth C. Keiler	272–275
<b>SRP19 Is a Dispensable Component of the Signal Recognition Particle in <i>Archaea</i></b>	Sophie Yurist, Idit Dahan, and Jerry Eichler	276–279

## PHYSIOLOGY AND METABOLISM

- Pirin Regulates Pyruvate Catabolism by Interacting with the Pyruvate Dehydrogenase E1 Subunit and Modulating Pyruvate Dehydrogenase Activity** Po-Chi Soo, Yu-Tze Horng, Meng-Jiun Lai, Jun-Rong Wei, Shang-Chen Hsieh, Yung-Lin Chang, Yu-Huan Tsai, and Hsin-Chih Lai 109–118

## ENZYMES AND PROTEINS

- Malic Enzyme Cofactor and Domain Requirements for Symbiotic N<sub>2</sub> Fixation by *Sinorhizobium meliloti*** Michael J. Mitsch, Alison Cowie, and Turlough M. Finan 160–168

- High-Affinity Binding of the Staphylococcal HarA Protein to Haptoglobin and Hemoglobin Involves a Domain with an Antiparallel Eight-Stranded  $\beta$ -Barrel Fold** Agnieszka Dryla, Bernd Hoffmann, Dieter Gelbmann, Carmen Giefing, Markus Hanner, Andreas Meinke, Annaliesa S. Anderson, Walter Koppensteiner, Robert Konrat, Alexander von Gabain, and Eszter Nagy 254–264

- FoxB of *Pseudomonas aeruginosa* Functions in the Utilization of the Xenosiderophores Ferrichrome, Ferrioxamine B, and Schizokinen: Evidence for Transport Redundancy at the Inner Membrane** Páraic Ó Cuív, Damien Keogh, Paul Clarke, and Michael O'Connell 284–287

## POPULATION GENETICS AND EVOLUTION

- Molecular Evolution of the H-NS Protein: Interaction with Hha-Like Proteins Is Restricted to *Enterobacteriaceae*** Cristina Madrid, Jesús García, Miquel Pons, and Antonio Juárez 265–268

---

*Cover photograph* (Copyright © 2007, American Society for Microbiology. All Rights Reserved.): Confocal laser scanning microscopy images of a *Pseudomonas aeruginosa* PAO1 flow cell biofilm (green) after treatment with colistin and staining of dead cells with propidium iodide (red). Colistin, surprisingly, kills the inner part of the biofilm, leaving the surface cell layers unaffected. Colistin-induced modification of the lipopolysaccharide seems to be responsible for this difference in susceptibility. Total three-dimensional views are shown together with image-processed views of “mushroom” colonies where the top has been cut off. (See related article on page 28.)