

APPLIED AND ENVIRONMENTAL MICROBIOLOGY

Volume 74

September 2008

No. 18

MINIREVIEW

Criteria for Validation of Methods in Microbial Forensics

Bruce Budowle, Steven E. Schutzer, 5599–5607
Stephen A. Morse, Kenneth F. Martinez, Ranajit Chakraborty, Babetta L. Marrone, Sharon L. Messenger, Randall S. Murch, Paul J. Jackson, Phillip Williamson, Rockne Harmon, and Stephan P. Velsko

GENETICS AND MOLECULAR BIOLOGY

Regulation of *Lactobacillus casei* Sorbitol Utilization Genes Requires DNA-Binding Transcriptional Activator GutR and the Conserved Protein GutM

Cristina Alcántara, Luz Adriana Sarmiento-Rubiano, Vicente Monedero, Josef Deutscher, Gaspar Pérez-Martínez, and María J. Yebrá 5731–5740

ENZYMOLGY AND PROTEIN ENGINEERING

Enhancement of Recombinant Hemoglobin Production in *Escherichia coli* BL21(DE3) Containing the *Plesiomonas shigelloides* Heme Transport System

D. M. Villarreal, C. L. Phillips, 5854–5856
A. M. Kelley, S. Villarreal, A. Villaloboz, P. Hernandez, J. S. Olson, and D. P. Henderson

PHYSIOLOGY AND BIOTECHNOLOGY

Dynamics of Glycolytic Regulation during Adaptation of *Saccharomyces cerevisiae* to Fermentative Metabolism

Joost van den Brink, André B. Canelas, Walter M. van Gulik, Jack T. Pronk, Joseph J. Heijnen, Johannes H. de Winde, and Pascale Daran-Lapujade 5710–5723

Physiological and Transcriptional Responses to High Concentrations of Lactic Acid in Anaerobic Chemostat Cultures of *Saccharomyces cerevisiae*

Derek A. Abbott, Erwin Suir, 5759–5768
Antonius J. A. van Maris, and Jack T. Pronk

Engineering of an *Escherichia coli* Strain for the Production of 3-Methyl-1-Butanol

Michael R. Connor and James C. Liao 5769–5775

Integration of Metabolic Modeling and Phenotypic Data in Evaluation and Improvement of Ethanol Production Using Respiration-Deficient Mutants of *Saccharomyces cerevisiae*

Duygu Dikicioglu, Pinar Pir, Z. Ilsen Onsan, Kutlu O. Ulgen, Betul Kirdar, and Stephen G. Oliver 5809–5816

Self-Cloning Baker's Yeasts That Accumulate Proline Enhance Freeze Tolerance in Doughs

Tomohiro Kaino, Tetsuya Tateiwa, 5845–5849
Satomi Mizukami-Murata, Jun Shima, and Hiroshi Takagi

MYCOLOGY

Characterization of an Endoglucanase Belonging to a New Subfamily of Glycoside Hydrolase Family 45 of the Basidiomycete *Phanerochaete chrysosporium*

Kiyohiko Igarashi, Takuya Ishida, 5628–5634
Chiaki Hori, and Masahiro Samejima

Morphological Transitions Governed by Density Dependence and Lipxygenase Activity in *Aspergillus flavus*

S. Horowitz Brown, R. Zarnowski, 5674–5685
W. C. Sharpee, and N. P. Keller

Purification, Molecular Cloning, and Enzymatic Properties of a Family 12 Endoglucanase (EG-II) from *Fomitopsis palustris*: Role of EG-II in Larch Holocellulose Hydrolysis

Tomoko Shimokawa, Hajime Shibuya, Masanobu Nojiri, Shigeki Yoshida, and Mitsuro Ishihara 5857–5861

Continued on following page

PUBLIC HEALTH MICROBIOLOGY

- Isolation of Sabin-Like Polioviruses from Wastewater in a Country Using Inactivated Polio Vaccine 5608-5614
Sebastian Zurbriggen, Kurt Tobler, Carlos Abril, Sabine Diedrich, Mathias Ackermann, Mark A. Pallansch, and Alfred Metzler
- Evaluation of a Low-Cost Electrostatic Dust Fall Collector for Indoor Air Endotoxin Exposure Assessment 5621-5627
Ilka Noss, Inge M. Wouters, Maaïke Visser, Dick J. J. Heederik, Peter S. Thorne, Bert Brunekreef, and Gert Doekes
- Microscopic and Molecular Studies of the Diversity of Free-Living Protozoa in Meat-Cutting Plants 5741-5749
Mario J. M. Vaerewijck, Koen Sabbe, Julie Baré, and Kurt Houf
- Genetic Diversity of *Porphyromonas gingivalis* Isolates Recovered from Single "Refractory" Periodontitis Sites 5817-5821
Morten Enersen, Ingar Olsen, and Dominique A. Caugant
- Escherichia coli* Constructs Expressing Human or Porcine Enterotoxins Induce Identical Diarrheal Diseases in a Piglet Infection Model 5832-5837
Weiping Zhang, Donald C. Robertson, Chengxian Zhang, Wei Bai, Mojun Zhao, and David H. Francis
- Bacteriophage P22 and *Staphylococcus aureus* Attenuation on Nonporous Fomites as Determined by Plate Assay and Quantitative PCR 5838-5840
Yoshifumi Masago, Tomoyuki Shibata, and Joan B. Rose

ENVIRONMENTAL MICROBIOLOGY

- Putative Virulence Traits and Pathogenicity of *Vibrio cholerae* Non-O1, Non-O139 Isolates from Surface Waters in Kolkata, India 5635-5644
Prasanta K. Bag, Poulami Bhowmik, Tapas K. Hajra, T. Ramamurthy, Pradipta Sarkar, Mrinmoyee Majumder, Goutam Chowdhury, and Suresh C. Das
- Monitoring Abundance and Expression of "Dehalococcoides" Species Chloroethene-Reductive Dehalogenases in a Tetrachloroethene-Dechlorinating Flow Column 5695-5703
Sebastian Behrens, Mohammad F. Azizian, Paul J. McMurdie, Andrew Sabalowsky, Mark E. Dolan, Lew Semprini, and Alfred M. Spormann
- Temporal Changes in the Ectomycorrhizal Community in Two Soil Horizons of a Temperate Oak Forest 5792-5801
Pierre-Emmanuel Courty, Alain Franc, Jean-Claude Pierrat, and Jean Garbaye
- Quantification of *Desulfovibrio vulgaris* Dissimilatory Sulfite Reductase Gene Expression during Electron Donor- and Electron Acceptor-Limited Growth 5850-5853
Laura Villanueva, Shelley A. Haveman, Zara M. Summers, and Derek R. Lovley

MICROBIAL ECOLOGY

- Genetic and Functional Variation in Denitrifier Populations along a Short-Term Restoration Chronosequence 5615-5620
Jason M. Smith and Andrew Ogram
- Polyphasic Approach to Bacterial Dynamics during the Ripening of Spanish Farmhouse Cheese, Using Culture-Dependent and -Independent Methods 5662-5673
Antonio M. Martín-Platero, Eva Valdivia, Mercedes Maqueda, Inés Martín-Sánchez, and Manuel Martínez-Bueno
- Relative Importance of H₂ and H₂S as Energy Sources for Primary Production in Geothermal Springs 5802-5808
Seth D'Imperio, Corinne R. Lehr, Harry Oduro, Greg Druschel, Michael Kühl, and Timothy R. McDermott
- Diversity of Bacterial Endosymbionts of Environmental *Acanthamoeba* Isolates 5822-5831
Stephan Schmitz-Esser, Elena R. Toenshoff, Susanne Haider, Eva Heinz, Verena M. Hoenninger, Michael Wagner, and Matthias Horn

FOOD MICROBIOLOGY

Identification and Characterization of Shiga Toxin Type 2 Variants in *Escherichia coli* Isolates from Animals, Food, and Humans

Jie Zheng, Shenghui Cui, Louise D. Teel, Shaohua Zhao, Ruby Singh, Alison D. O'Brien, and Jianghong Meng 5645-5652

PLANT MICROBIOLOGY

Effects of *Medicago truncatula* Genetic Diversity, Rhizobial Competition, and Strain Effectiveness on the Diversity of a Natural *Sinorhizobium* Species Community

Cécile Rangin, Brigitte Brunel, Jean-Claude Cleyet-Marel, Marie-Mathilde Perrineau, and Gilles Béna 5653-5661

Microbial Community Analysis of Field-Grown Soybeans with Different Nodulation Phenotypes

Seishi Ikeda, Lynn Esther E. Rallos, Takashi Okubo, Shima Eda, Shoko Inaba, Hisayuki Mitsui, and Kiwamu Minamisawa 5704-5709

Preferential Colonization of *Solanum tuberosum* L. Roots by the Fungus *Glomus intraradices* in Arable Soil of a Potato Farming Area

Patrizia Cesaro, Diederik van Tuinen, Andrea Copetta, Odile Chatagnier, Graziella Berta, Silvio Gianinazzi, and Guido Lingua 5776-5783

Global Gene Expression Profiles Suggest an Important Role for Nutrient Acquisition in Early Pathogenesis in a Plant Model of *Pseudomonas aeruginosa* Infection

Tiffany L. Weir, Valerie J. Stull, Dayakar Badri, Lily A. Trunk, Herbert P. Schweizer, and Jorge Vivanco 5784-5791

An Amino Acid Substitution at Position 740 in σ^{70} of *Ralstonia solanacearum* Strain OE1-1 Affects Its In Planta Growth

Ayami Kanda, Kazuhiro Tsuneishi, Ai Mori, Kouhei Ohnishi, Akinori Kiba, and Yasufumi Hikichi 5841-5844

INVERTEBRATE MICROBIOLOGY

A New Huanglongbing Species, "*Candidatus Liberibacter psyllaurosus*," Found To Infect Tomato and Potato, Is Vectored by the Psyllid *Bactericera cockerelli* (Sulc)

A. K. Hansen, J. T. Trumble, R. Stouthamer, and T. D. Paine 5862-5865

METHODS

Construction of *arsB* and *tetH* Mutants of the Sulfur-Oxidizing Bacterium *Acidithiobacillus caldus* by Marker Exchange

Leonardo J. van Zyl, Jolanda M. van Munster, and Douglas E. Rawlings 5686-5694

Extraction of RNA from Cheese without Prior Separation of Microbial Cells

Christophe Monnet, Vincent Ulvé, Anne-Sophie Sarthou, and Françoise Irlinger 5724-5730

DjIA, a Membrane-Anchored DnaJ-Like Protein, Is Required for Cytotoxicity of Clam Pathogen *Vibrio tapetis* to Hemocytes

Fatma Lakhal, Stéphanie Bury-Moné, Yanoura Nomane, Nelly Le Goïc, Christine Paillard, and Annick Jacq 5750-5758

Cover photograph (Copyright © 2008, American Society for Microbiology. All Rights Reserved.): Confocal laser-scanning fluorescence and phase-contrast microscopic analysis of the development-linked cell death and antibiotic production processes of *Streptomyces* spp. in submerged cultures. Images correspond to samples of *Streptomyces antibioticus* ATCC 11891 (top) and *Streptomyces coelicolor* A3(2) (bottom left) stained with SYTO 9 and propidium iodide and of an unstained *Streptomyces coelicolor* A3(2) sample observed under a phase-contrast microscope (bottom right). Antibiotics in the latter appear red in the center of the pellet. (See related article in June 2008, vol. 74, no. 12, p. 3877.)