

APPLIED AND ENVIRONMENTAL MICROBIOLOGY

Volume 75

March 2009

No. 6

BIOTECHNOLOGY

- Identification and Characterization of Lactocyclin Q, a Novel Cyclic Bacteriocin Produced by *Lactococcus* sp. Strain QU 12** Naruhiko Sawa, Takeshi Zendo, Junko Kiyofuji, Koji Fujita, Kohei Himeno, Jiro Nakayama, and Kenji Sonomoto 1552–1558
- Microbial Conversion of Glycerol to 1,3-Propanediol by an Engineered Strain of *Escherichia coli*** Xueming Tang, Yongsong Tan, Hong Zhu, Kai Zhao, and Wei Shen 1628–1634
- Reengineering of a *Corynebacterium glutamicum* L-Arginine and L-Citrulline Producer** Masato Ikeda, Satoshi Mitsuhashi, Kenji Tanaka, and Mikiro Hayashi 1635–1641
- Silver-Palladium Surfaces Inhibit Biofilm Formation** Wen-Chi Chiang, Casper Schroll, Lisbeth Rischel Hilbert, Per Møller, and Tim Tolker-Nielsen 1674–1678
- Multimeric Hemicellulases Facilitate Biomass Conversion** Zhanmin Fan, Kurt Wagschal, Wei Chen, Michael D. Montross, Charles C. Lee, and Ling Yuan 1754–1757

ENVIRONMENTAL MICROBIOLOGY

- Enhancement of UV Light Sensitivity of a *Vibrio parahaemolyticus* O3:K6 Pandemic Strain Due to Natural Lysogenization by a Telomeric Phage** Beatriz Zabala, Katherine García, and Romilio T. Espejo 1697–1702
- Roseophage RDJLΦ1, Infecting the Aerobic Anoxygenic Phototrophic Bacterium *Roseobacter denitrificans* OCh114** Yongyu Zhang and Nianzhi Jiao 1745–1749
- Diffusion of Macromolecules in Model Oral Biofilms** Shoji Takenaka, Betsey Pitts, Harsh M. Trivedi, and Philip S. Stewart 1750–1753

ENZYMOLGY AND PROTEIN ENGINEERING

- Reconfiguring the Quorum-Sensing Regulator SdiA of *Escherichia coli* To Control Biofilm Formation via Indole and *N*-Acylhomoserine Lactones** Jintae Lee, Toshinari Maeda, Seok Hoon Hong, and Thomas K. Wood 1703–1716

FOOD MICROBIOLOGY

- Role of *proP* and *proU* in Betaine Uptake by *Yersinia enterocolitica* under Cold and Osmotic Stress Conditions** Thirunavukkarasu Annamalai and Kumar Venkitanarayanan 1471–1477
- Longitudinal Study of *Salmonella* Dispersion and the Role of Environmental Contamination in Commercial Swine Production Systems** Paul M. Dorr, Daniel A. Tadesse, Bayleyegn Molla Zewde, Pamela Fry, Siddhartha Thakur, and Wondwossen A. Gebreyes 1478–1486
- Changes in Barotolerance, Thermotolerance, and Cellular Morphology throughout the Life Cycle of *Listeria monocytogenes*** Jia Wen, Ramaswamy C. Anantheswaran, and Stephen J. Knabel 1581–1588
- Role of Cold Shock Proteins in Growth of *Listeria monocytogenes* under Cold and Osmotic Stress Conditions** Barbara Schmid, Jochen Klumpp, Eveline Raimann, Martin J. Loessner, Roger Stephan, and Taurai Tasara 1621–1627
- Phage-Mediated Shiga Toxin 2 Gene Transfer in Food and Water** Lejla Imamovic, Juan Jofre, Herbert Schmidt, Ruth Serra-Moreno, and Maite Muniesa 1764–1768

Continued on following page

Interaction between Lactic Acid Bacteria and <i>Mycobacterium bovis</i> in Ethiopian Fermented Milk: Insight into the Fate of <i>M. bovis</i>	Solomon H. Mariam	1790–1792
The <i>Salmonella</i> Pathogenicity Island 2-Encoded Type III Secretion System Is Essential for the Survival of <i>Salmonella enterica</i> Serovar Typhimurium in Free-Living Amoebae	Benjamin Bleasdale, Penelope J. Lott, Aparna Jagannathan, Mark P. Stevens, Richard J. Birtles, and Paul Wigley	1793–1795
Comparative Analysis of Attachment of Shiga-Toxigenic <i>Escherichia coli</i> and <i>Salmonella</i> Strains to Cultured HT-29 and Caco-2 Cell Lines	Glen E. Mellor, Rebecca M. Goulter, T. W. Raymond Chia, and Gary A. Dykes	1796–1799
GENETICS AND MOLECULAR BIOLOGY		
Development of a Prophage Typing System and Analysis of Prophage Carriage in <i>Streptococcus pneumoniae</i>	Patricia Romero, Ernesto García, and Tim J. Mitchell	1642–1649
Isolation and Identification of Cellulose-Binding Proteins from Sheep Rumen Contents	Atsushi Toyoda, Wataru Iio, Makoto Mitsumori, and Hajime Minato	1667–1673
Nickel Promotes Biofilm Formation by <i>Escherichia coli</i> K-12 Strains That Produce Curli	Claire Perrin, Romain Briandet, Gregory Jubelin, Philippe Lejeune, Marie-Andrée Mandrand-Berthelot, Agnès Rodrigue, and Corinne Dorel	1723–1733
Tailoring the P450 Monooxygenase Gene for FR-008/Candicidin Biosynthesis	Shi Chen, Xiangzhao Mao, Yaling Shen, Yongjun Zhou, Jialiang Li, Lianrong Wang, Xinyi Tao, Liang Yang, Yuxiao Wang, Xiufen Zhou, Zixin Deng, and Dongzhi Wei	1778–1781
METHODS		
Rapid Oligonucleotide-Based Recombineering of the Chromosome of <i>Salmonella enterica</i>	Roman G. Gerlach, Daniela Jäckel, Stefanie U. Hölzer, and Michael Hensel	1575–1580
Comparison of Loop-Mediated Isothermal Amplification Assay and Conventional Culture Methods for Detection of <i>Campylobacter jejuni</i> and <i>Campylobacter coli</i> in Naturally Contaminated Chicken Meat Samples	Wataru Yamazaki, Masumi Taguchi, Takao Kawai, Kentaro Kawatsu, Junko Sakata, Kiyoshi Inoue, and Naoaki Misawa	1597–1603
Chromosome-Based Genetic Complementation System for <i>Xylella fastidiosa</i>	Ayumi Matsumoto, Glenn M. Young, and Michele M. Igo	1679–1687
Image Analysis Software Based on Color Segmentation for Characterization of Viability and Physiological Activity of Biofilms	Luis E. Chávez de Paz	1734–1739
MICROBIAL ECOLOGY		
Variations in Archaeal and Bacterial Diversity Associated with the Sulfate-Methane Transition Zone in Continental Margin Sediments (Santa Barbara Basin, California)	Benjamin K. Harrison, Husen Zhang, Will Berelson, and Victoria J. Orphan	1487–1499
Diversity of Beta-Propeller Phytase Genes in the Intestinal Contents of Grass Carp Provides Insight into the Release of Major Phosphorus from Phytate in Nature	Huoqing Huang, Pengjun Shi, Yaru Wang, Huiying Luo, Na Shao, Guozeng Wang, Peilong Yang, and Bin Yao	1508–1516
Growth of Enterococci in Unaltered, Unseeded Beach Sands Subjected to Tidal Wetting	Kevan M. Yamahara, Sarah P. Walters, and Alexandria B. Boehm	1517–1524

Exploring the Diversity of the Bifidobacterial Population in the Human Intestinal Tract	Francesca Turrone, Elena Foroni, Paola Pizzetti, Vanessa Giubellini, Angela Ribbera, Paolo Merusi, Patrizio Cagnasso, Barbara Bizzarri, Gian Luigi de'Angelis, Fergus Shanahan, Douwe van Sinderen, and Marco Ventura	1534–1545
<i>Escherichia coli</i> Populations in Great Lakes Waterfowl Exhibit Spatial Stability and Temporal Shifting	Dennis L. Hansen, Satoshi Ishii, Michael J. Sadowsky, and Randall E. Hicks	1546–1551
Contrasting Soil pH Effects on Fungal and Bacterial Growth Suggest Functional Redundancy in Carbon Mineralization	Johannes Rousk, Philip C. Brookes, and Erland Bååth	1589–1596
Molecular Comparison of Bacterial Communities within Iron-Containing Flocculent Mats Associated with Submarine Volcanoes along the Kermadec Arc	Tyler W. Hodges and Julie B. Olson	1650–1657
Biogeographic Patterns in Genomic Diversity among a Large Collection of <i>Vibrio cholerae</i> Isolates	Daniel P. Keymer, Lillian H. Lam, and Alexandria B. Boehm	1658–1666
Molecular Diversity of a North Carolina Wastewater Treatment Plant as Revealed by Pyrosequencing	Nina Sanapareddy, Timothy J. Hamp, Luis C. Gonzalez, Helene A. Hilger, Anthony A. Fodor, and Sandra M. Clinton	1688–1696
Isolation of a Human Intestinal Bacterium Capable of Daidzein and Genistein Conversion	Anastasia Matthies, Michael Blaut, and Annett Braune	1740–1744
MYCOLOGY		
Sequencing and Analysis of Fungal rRNA Operons for Development of Broad-Range Fungal PCR Assays	Prasanna D. Khot, Daisy L. Ko, and David N. Fredricks	1559–1565
PHYSIOLOGY		
<i>Sulfolobus tokodaii</i> ST0053 Produces a Novel Thermostable, NAD-Dependent Medium-Chain Alcohol Dehydrogenase	Hisaaki Yanai, Katsumi Doi, and Toshihisa Ohshima	1758–1763
C₂₉ Olefinic Hydrocarbons Biosynthesized by <i>Arthrobacter</i> Species	Janice A. Frias, Jack E. Richman, and Lawrence P. Wackett	1774–1777
PLANT MICROBIOLOGY		
Bacterial Diversity Analysis of Huanglongbing Pathogen-Infected Citrus, Using PhyloChip Arrays and 16S rRNA Gene Clone Library Sequencing	Uma Shankar Sagaram, Kristen M. DeAngelis, Pankaj Trivedi, Gary L. Andersen, Shi-En Lu, and Nian Wang	1566–1574
Transcriptional Regulation and Signal-Peptide-Dependent Secretion of Exolevanase (LsdB) in the Endophyte <i>Gluconacetobacter diazotrophicus</i>	Carmen Menéndez, Alexander Banguela, Jesús Caballero-Mellado, and Lázaro Hernández	1782–1785
PUBLIC HEALTH MICROBIOLOGY		
Development of a Test System To Apply Virus-Containing Particles to Filtering Facepiece Respirators for the Evaluation of Decontamination Procedures	Edward Fisher, Samy Rengasamy, Dennis Viscusi, Evanly Vo, and Ronald Shaffer	1500–1507
<i>Bacteroidales</i> Diversity in Ring-Billed Gulls (<i>Larus delawarensis</i>) Residing at Lake Michigan Beaches	Sonja N. Jeter, Colleen M. McDermott, Patricia A. Bower, Julie L. Kinzelman, Melinda J. Bootsma, Giles W. Goetz, and Sandra L. McLellan	1525–1533
Evaluation of Genotypic and Phenotypic Methods To Distinguish Clinical from Environmental <i>Vibrio vulnificus</i> Strains	Eva Sanjuán, Belén Fouz, James D. Oliver, and Carmen Amaro	1604–1613

Continued from preceding page

Real-Time PCR Assay for Detection of a New Simulant for Poxvirus Biothreat Agents	Laurence Garnier, Jean-Christophe Gaudin, Paul Bensadoun, Isabelle Rebillat, and Yannick Morel	1614–1620
Tetracycline Resistome of the Organic Pig Gut	Katarzyna A. Kazimierczak, Karen P. Scott, Denise Kelly, and Rustam I. Aminov	1717–1722
Longitudinal Study of Shiga Toxin-Producing <i>Escherichia coli</i> Shedding in Sheep Feces: Persistence of Specific Clones in Sheep Flocks	Sergio Sánchez, Remigio Martínez, Alfredo García, Jorge Blanco, Jesús E. Blanco, Miguel Blanco, Ghizlane Dahbi, Cecilia López, Azucena Mora, Joaquín Rey, and Juan M. Alonso	1769–1773
Prevalence of <i>Rickettsia</i> Species in Canadian Populations of <i>Dermacentor andersoni</i> and <i>D. variabilis</i>	Shaun J. Dergousoff, Andrew J. A. Gajadhar, and Neil B. Chilton	1786–1789
AUTHOR'S CORRECTION		
Improved Thermostability and Acetic Acid Tolerance of <i>Escherichia coli</i> via Directed Evolution of Homoserine <i>o</i>-Succinyltransferase	Elena A. Mordukhova, Hee-Soon Lee, and Jae-Gu Pan	1800

Cover photograph (Copyright © 2009, American Society for Microbiology. All Rights Reserved.): Transmission electron micrograph of the telomeric temperate phage found in the pandemic strain of *Vibrio parahaemolyticus* in southern Chile. Its presence increases the UV sensitivity of the lysogenized cells and could have a significant role in reducing the survival and propagation capability of the *V. parahaemolyticus* pandemic strain in the ocean. Photo by Jochen Reetz, Federal Institute for Risk Assessment, Berlin, Germany. (See related article on page 1697.)