



CONTENTS • MAY 2019 • VOLUME 63, NO. 5

MINIREVIEWS

- Generating Robust and Informative Nonclinical *In Vitro* and *In Vivo* Bacterial Infection Model Efficacy Data To Support Translation to Humans** e02307-18

*Jürgen B. Bulitta, William W. Hope, Ann E. Eakin, Tina Guina, Vincent H. Tam, Arnold Louie, George L. Drusano, Jennifer L. Hoover*

- Considerations for Dose Selection and Clinical Pharmacokinetics/Pharmacodynamics for the Development of Antibacterial Agents** e02309-18

*M. L. Rizk, S. M. Bhavnani, G. Drusano, A. Dane, A. E. Eakin, T. Guina, S. H. Jang, J. F. Tomayko, J. Wang, L. Zhuang, T. P. Lodise*

CHEMISTRY; BIOSYNTHESIS

- Synthesis and Leishmanicidal Activity of Novel Urea, Thiourea, and Selenourea Derivatives of Diselenides** e02200-18

*Marta Díaz, Héctor de Lucio, Esther Moreno, Socorro Espuelas, Carlos Aydillo, Antonio Jiménez-Ruiz, Miguel Ángel Toro, Killian Jesús Gutiérrez, Víctor Martínez-Merino, Alfonso Cornejo, Juan Antonio Palop, Carmen Sanmartín, Daniel Plano*

MECHANISMS OF ACTION: PHYSIOLOGICAL EFFECTS

- In Vitro* and *In Vivo* Activities of  $\beta$ -Lactams in Combination with the Novel  $\beta$ -Lactam Enhancers Zidebactam and WCK 5153 against Multidrug-Resistant Metallo- $\beta$ -Lactamase-Producing *Klebsiella pneumoniae*** e00128-19

*Bartolome Moya, Isabel M. Barcelo, Gabriel Cabot, Gabriel Torrens, Snehal Palwe, Prashant Joshi, Kushal Umarkar, Swapna Takalkar, Hariharan Periasamy, Sachin Bhagwat, Mahesh Patel, German Bou, Antonio Oliver*

- The Widely Used Antimicrobial Triclosan Induces High Levels of Antibiotic Tolerance *In Vitro* and Reduces Antibiotic Efficacy up to 100-Fold *In Vivo*** e02312-18

*Corey Westfall, Ana Lidia Flores-Mireles, John Isaac Robinson, Aaron J. L. Lynch, Scott Hultgren, Jeffrey P. Henderson, Petra Anne Levin*

- The Quinazolinone Allosteric Inhibitor of PBP 2a Synergizes with Piperacillin and Tazobactam against Methicillin-Resistant *Staphylococcus aureus*** e02637-18

*Jeshina Janardhanan, Renee Bouley, Siseth Martínez-Caballero, Zhihong Peng, Mayte Batuecas-Mordillo, Jayda E. Meisel, Derong Ding, Valerie A. Schroeder, William R. Wolter, Kiran V. Mahasenan, Juan A. Hermoso, Shahriar Mobashery, Mayland Chang*

MECHANISMS OF RESISTANCE

- NG-Test Carba 5 for Rapid Detection of Carbapenemase-Producing *Enterobacteriales* from Positive Blood Cultures** e00011-19

*Julie Takissian, Rémy A. Bonnin, Thierry Naas, Laurent Dortet*

- Identification of Antimalarial Compounds That Require CLAG3 for Their Uptake by *Plasmodium falciparum*-Infected Erythrocytes** e00052-19

*Sofía Mira-Martínez, Anastasia K. Pickford, Núria Rovira-Graells, Pieter Guetens, Elisabet Tintó-Font, Alfred Cortés, Anna Rosanas-Urgell*

- A Systematic Screen Reveals a Diverse Collection of Medications That Induce Antifungal Resistance in *Candida* Species** e00054-19  
*Arielle Butts, Parker Reitler, Andrew T. Nishimoto, Christian DeJarnette, Leanna R. Estredge, Tracy L. Peters, Michael P. Veve, P. David Rogers, Glen E. Palmer*
- Contribution of Clinically Derived Mutations in the Gene Encoding the Zinc Cluster Transcription Factor Mrr2 to Fluconazole Antifungal Resistance and *CDR1* Expression in *Candida albicans*** e00078-19  
*Andrew T. Nishimoto, Qing Zhang, Brandon Hazlett, Joachim Morschhäuser, P. David Rogers*
- Analysis of the *Pseudomonas aeruginosa* Aminoglycoside Differential Resistomes Allows Defining Genes Simultaneously Involved in Intrinsic Antibiotic Resistance and Virulence** e00185-19  
*Fernando Sanz-García, Carolina Alvarez-Ortega, Jorge Olivares-Pacheco, Paula Blanco, José Luis Martínez, Sara Hernando-Amado*
- Resistance and Virulence Mechanisms of *Escherichia coli* Selected by Enrofloxacin in Chicken** e01824-18  
*Jun Li, Haihong Hao, Menghong Dai, Heying Zhang, Jianan Ning, Guyue Cheng, Muhammad Abu Bakr Shabbir, Abdul Sajid, Zonghui Yuan*
- Candida albicans* Biofilms Are Generally Devoid of Persister Cells** e01979-18  
*Iryna Denega, Christophe d'Enfert, Sophie Bachellier-Bassi*
- Inhibition of Vesicular Transport Influences Fungal Susceptibility to Fluconazole** e01998-18  
*Liesbeth Demuyser, Katrien Van Dyck, Bea Timmermans, Patrick Van Dijck*
- Remodeling of pSK1 Family Plasmids and Enhanced Chlorhexidine Tolerance in a Dominant Hospital Lineage of Methicillin-Resistant *Staphylococcus aureus*** e02356-18  
*Sarah L. Baines, Slade O. Jensen, Neville Firth, Anders Gonçalves da Silva, Torsten Seemann, Glen P. Carter, Deborah A. Williamson, Benjamin P. Howden, Timothy P. Stinear*
- Gain- and Loss-of-Function Screens Coupled to Next-Generation Sequencing for Antibiotic Mode of Action and Resistance Studies in *Streptococcus pneumoniae*** e02381-18  
*Hélène Gingras, Kévin Patron, Arijit Bhattacharya, Philippe Leprohon, Marc Ouellette*
- False-Positive Carbapenem-Hydrolyzing Confirmatory Tests Due to ACT-28, a Chromosomally Encoded AmpC with Weak Carbapenemase Activity from *Enterobacter kobei*** e02388-18  
*Agnès B. Jousset, Saoussen Oueslati, Sandrine Bernabeu, Julie Takissian, Elodie Creton, Anaïs Vogel, Aimie Sauvadet, Garance Cotellon, Lauraine Gauthier, Rémy A. Bonnin, Laurent Dortet, Thierry Naas*
- Comparative Analysis of *bla*<sub>KPC</sub> Expression in Tn4401 Transposons and the Tn3-Tn4401 Chimera** e02434-18  
*Jiansheng Huang, Xiaolei Hu, Yunan Zhao, Yang Shi, Hui Ding, Rongzhen Wu, Zhigang Zhao, Jiansong Ji*
- Fate of CMY-2-Encoding Plasmids Introduced into the Human Fecal Microbiota by Exogenous *Escherichia coli*** e02528-18  
*Mehreen Anjum, Jonas Stenlökke Madsen, Joseph Nesme, Bimal Jana, Maria Wiese, Džiuginta Jasinskytė, Dennis Sandris Nielsen, Søren Johannes Sørensen, Anders Dalsgaard, Arshnee Moodley, Valeria Bortolaia, Luca Guardabassi*

- Whole-Genome Sequencing Analysis of Multidrug-Resistant Serotype 15A *Streptococcus pneumoniae* in Japan and the Emergence of a Highly Resistant Serotype 15A-ST9084 Clone** e02579-18  
*Satoshi Nakano, Takao Fujisawa, Yutaka Ito, Bin Chang, Yasufumi Matsumura, Masaki Yamamoto, Shigeru Suga, Makoto Ohnishi, Miki Nagao*
- The Evolution of Azole Resistance in *Candida albicans* Sterol 14 $\alpha$ -Demethylase (CYP51) through Incremental Amino Acid Substitutions** e02586-18  
*Andrew G. Warrillow, Andrew T. Nishimoto, Josie E. Parker, Claire L. Price, Stephanie A. Flowers, Diane E. Kelly, P. David Rogers, Steven L. Kelly*
- Interplay among IncA and bla<sub>KPC</sub>-Carrying Plasmids in *Citrobacter freundii*** e02609-18  
*Ibrahim Bitar, Mariasofia Caltagirone, Laura Villa, Vittoria Mattioni Marchetti, Elisabetta Nucleo, Mario Sarti, Roberta Migliavacca, Alessandra Carattoli*
- SUSCEPTIBILITY**
- Aztreonam plus Clavulanate, Tazobactam, or Avibactam for Treatment of Infections Caused by Metallo- $\beta$ -Lactamase-Producing Gram-Negative Bacteria** e00010-19  
*Cécile Emeraud, Lelia Escaut, Athénais Boucly, Nicolas Fortineau, Rémy A. Bonnin, Thierry Naas, Laurent Dortet*
- Assessment of the Potential for Inducing Resistance in Multidrug-Resistant Organisms from Exposure to Minocycline, Rifampin, and Chlorhexidine Used To Treat Intravascular Devices** e00040-19  
*Joel Rosenblatt, Nylev Vargas-Cruz, Ruth A. Reitzel, Issam I. Raad*
- In Vitro Activity of Combinations of Zinc Chelators with Amphotericin B and Posaconazole against Six Mucorales Species** e00266-19  
*Florencia Leonardelli, Daiana Macedo, Catiana Dudiuk, Laura Theill, Matias S. Cabeza, Soledad Gamarra, Guillermo Garcia-Effron*
- Differences in Clinical Manifestations, Antimicrobial Susceptibility Patterns, and Mutations of Fluoroquinolone Target Genes between *Chryseobacterium gleum* and *Chryseobacterium indologenes*** e02256-18  
*Jiun-Nong Lin, Chung-Hsu Lai, Chih-Hui Yang, Yi-Han Huang*
- Synergistic Effect of Ceftazidime-Avibactam with Meropenem against Panresistant, Carbapenemase-Harboring *Acinetobacter baumannii* and *Serratia marcescens* Investigated Using Time-Kill and Disk Approximation Assays** e02367-18  
*Juliana Januário Gaudereto, Lauro Vieira Perdigão Neto, Gleice Cristina Leite, Roberta Ruedas Martins, Gladys Villas Boas do Prado, Flavia Rossi, Thais Guimarães, Anna Sara Levin, Silvia Figueiredo Costa*
- In Vitro Activities of Omadacycline against Rapidly Growing Mycobacteria** e02522-18  
*Carolyn Shoen, David Benaroch, Mary Sklaney, Michael Cynamon*
- Evaluation of the Bactericidal Activity of Fosfomycin in Combination with Selected Antimicrobial Comparison Agents Tested against Gram-Negative Bacterial Strains by Using Time-Kill Curves** e02549-18  
*Robert K. Flamm, Paul R. Rhomberg, Jill M. Lindley, Kim Sweeney, E. J. Ellis-Grosse, Dee Shortridge*

## ANALYTICAL PROCEDURES

- Measuring Antimicrobial Efficacy against Biofilms: a Meta-analysis** e00020-19  
*Philip S. Stewart, Albert E. Parker*

## ANTIVIRAL AGENTS

- Comparison of the Antiviral Activity of Bictegravir against HIV-1 and HIV-2 Isolates and Integrase Inhibitor-Resistant HIV-2 Mutants** e00014-19

*Robert A. Smith, Dana N. Raugi, Vincent H. Wu, Christopher G. Zavala, Jennifer Song, Khardiata Mbaye Diallo, Moussa Seydi, Geoffrey S. Gottlieb, on behalf of the University of Washington-Dakar HIV-2 Study Group*

- Differences in the Likelihood of Acyclovir Resistance-Associated Mutations in the Thymidine Kinase Genes of Herpes Simplex Virus 1 and Varicella-Zoster Virus** e00017-19

*Hikaru Fujii, Shizuko Harada, Tomoki Yoshikawa, Souichi Yamada, Natsumi Omura, Miho Shibamura, Takuya Inagaki, Hirofumi Kato, Shuetsu Fukushi, Masayuki Saijo*

- Doravirine and the Potential for CYP3A-Mediated Drug-Drug Interactions** e02016-18

*Sauzanne G. Khalilieh, Ka Lai Yee, Rosa I. Sanchez, Li Fan, Matt S. Anderson, Monali Sura, Tine Laethem, Scott Rasmussen, Luc van Bortel, Griet van Lancker, Marian Iwamoto*

- Investigation of Pharmacokinetic Interactions between Doravirine and Elbasvir-Grazoprevir and Ledipasvir-Sofosbuvir** e02491-18

*Wendy Ankrom, Rosa I. Sanchez, Ka Lai Yee, Li Fan, Pranab Mitra, Dennis Wolford, Ilias Triantafyllou, Laura M. Sterling, S. Aubrey Stoch, Marian Iwamoto, Sauzanne Khalilieh*

- Resistance Analysis of Bictegravir-Emtricitabine-Tenofovir Alafenamide in HIV-1 Treatment-Naive Patients through 48 Weeks** e02533-18

*Rima K. Acosta, Madeleine Willkom, Ross Martin, Silvia Chang, Xuelian Wei, William Garner, Justin Lutz, Sophia Majeed, Devi SenGupta, Hal Martin, Erin Quirk, Kirsten L. White*

## EPIDEMIOLOGY AND SURVEILLANCE

- A Nationwide Screen of Carbapenem-Resistant *Klebsiella pneumoniae* Reveals an Isolate with Enhanced Virulence and Clinically Undetected Colistin Heteroresistance** e00107-19

*Jessie E. Wozniak, Victor I. Band, Andrew B. Conley, Lavanya Rishishwar, Eileen M. Burd, Sarah W. Satola, Dwight J. Hardy, Rebecca Tsay, Monica M. Farley, Jesse T. Jacob, Ghinwa Dumyati, I. King Jordan, David S. Weiss*

- Mutation Profile of *pfdhfr* and *pfdhps* in *Plasmodium falciparum* among Returned Chinese Migrant Workers from Africa** e01927-18

*Chao Xu, Hui Sun, Qingkuan Wei, Jin Li, Ting Xiao, Xiangli Kong, Yongbin Wang, Guihua Zhao, Longjiang Wang, Gongzhen Liu, Ge Yan, Bingcheng Huang, Kun Yin*

- Monitoring the Efficacy of Chloroquine-Primaquine Therapy for Uncomplicated *Plasmodium vivax* Malaria in the Main Transmission Hot Spot of Brazil** e01965-18

*Simone Ladeia-Andrade, Maria José Menezes, Taís Nóbrega de Sousa, Ana Carolina R. Silvino, Jaques F. de Carvalho, Jr., Laís C. Salla, Odailton A. Nery, Gladson N. P. de Melo, Rodrigo M. Corder, Priscila T. Rodrigues, Marcelo U. Ferreira*

- Expansion of Vancomycin-Resistant *Enterococcus faecium* in an Academic Tertiary Hospital in Southwest Germany: a Large-Scale Whole-Genome-Based Outbreak Investigation** e01978-18  
*Jan Liese, Leonard Schüle, Philipp Oberhettinger, Leonie Tschörner, Tran Nguyen, Daniela Dörfel, Wichard Vogel, Matthias Marschal, Ingo Autenrieth, Matthias Willmann, Silke Peter*
- An Integrative Database of  $\beta$ -Lactamase Enzymes: Sequences, Structures, Functions, and Phylogenetic Trees** e02319-18  
*Vivek Keshri, Seydina M. Diene, Adrien Estienne, Justine Dardaillon, Olivier Chabrol, Laurent Tichit, Jean-Marc Rolain, Didier Raoult, Pierre Pontarotti*
- Molecular Characterization of Multidrug-Resistant *Pseudomonas aeruginosa* Isolates in Hospitals in Myanmar** e02397-18  
*Tatsuya Tada, Tomomi Hishinuma, Shin Watanabe, Hiroki Uchida, Mari Tohya, Kyoko Kuwahara-Arai, San Mya, Khin Nyein Zan, Teruo Kirikae, Htay Htay Tin*
- Baseline *Ex Vivo* and Molecular Responses of *Plasmodium falciparum* Isolates to Piperaquine before Implementation of Dihydroartemisinin-Piperaquine in Senegal** e02445-18  
*Marie Gladys Robert, Francis Foguim Tsombeng, Mathieu Gendrot, Silman Diawara, Marylin Madamet, Mame Bou Kounta, Khalifa Ababacar Wade, Mansour Fall, Mamadou Wague Gueye, Nicolas Benoit, Aminata Nakoulima, Raymond Bercion, Rémy Amalvict, Bécaye Fall, Boubacar Wade, Bakary Diatta, Bruno Pradines*
- EXPERIMENTAL THERAPEUTICS**
- Contribution of Pretomanid to Novel Regimens Containing Bedaquiline with either Linezolid or Moxifloxacin and Pyrazinamide in Murine Models of Tuberculosis** e00021-19  
*Jian Xu, Si-Yang Li, Deepak V. Almeida, Rokeya Tasneen, Kala Barnes-Boyle, Paul J. Converse, Anna M. Upton, Khisimuzi Mdluli, Nader Fotouhi, Eric L. Nuermberger*
- Beyond Piperacillin-Tazobactam: Cefepime and AAI101 as a Potent  $\beta$ -Lactam– $\beta$ -Lactamase Inhibitor Combination** e00105-19  
*Krisztina M. Papp-Wallace, Christopher R. Bethel, Jocelyne Caillon, Melissa D. Barnes, Gilles Potel, Saralee Bajaksouzian, Joseph D. Rutter, Amokrane Reghal, Stuart Shapiro, Magdalena A. Taracila, Michael R. Jacobs, Robert A. Bonomo, Cédric Jacqueline*
- Apotransferrin in Combination with Ciprofloxacin Slows Bacterial Replication, Prevents Resistance Amplification, and Increases Antimicrobial Regimen Effect** e00112-19  
*Paul G. Ambrose, Brian D. VanScoy, Brian M. Luna, Jun Yan, Amber Ulhaq, Travis B. Nielsen, Sue Rudin, Kristine Hujer, Robert A. Bonomo, Luis Actis, Eric Skaar, Brad Spellberg*
- Pep5, a Fragment of Cyclin D2, Shows Antiparasitic Effects in Different Stages of the *Trypanosoma cruzi* Life Cycle and Blocks Parasite Infectivity** e01806-18  
*Christiane Bezerra de Araujo, Loyze Paola de Lima, Simone Guedes Calderano, Flávia Silva Damasceno, Ariel M. Silber, Maria Carolina Elias*
- Effective Treatment of Staphylococcal Enterotoxin B Aerosol Intoxication in Rhesus Macaques by Using Two Parenterally Administered High-Affinity Monoclonal Antibodies** e02049-18  
*Daniel Verreault, Jane Ennis, Kevin Whaley, Stephanie Z. Killeen, Hatice Karauzum, M. Javad Aman, Rick Holtsberg, Lara Doyle-Meyers, Peter J. Didier, Larry Zeitlin, Chad J. Roy*

- Efficacy of Aminomethyl Spectinomycins against Complex Upper Respiratory Tract Bacterial Infections** e02096-18  
*Amy Iverson, Christopher J. Meyer, Peter Vogel, Samantha Waidyarachchi, Nisha Das, David F. Bruhn, Aaron Poole, Michelle M. Butler, Terry L. Bowlin, Richard E. Lee, Jason W. Rosch*
- Improved Methods for Assessing Therapeutic Potential of Antifungal Agents against Dermatophytes and Their Application in the Development of NP213, a Novel Onychomycosis Therapy Candidate** e02117-18  
*Derry K. Mercer, Colin S. Stewart, Lorna Miller, Jennifer Robertson, Vanessa M. S. Duncan, Deborah A. O'Neil*
- In Vitro and In Vivo Activities of the Riminophenazine TBI-166 against *Mycobacterium tuberculosis*** e02155-18  
*Jian Xu, Bin Wang, Lei Fu, Hui Zhu, Shaochen Guo, Haihong Huang, Dali Yin, Ye Zhang, Yu Lu*
- Enzymatic and Structural Characterization of the *Naegleria fowleri* Glucokinase** e02410-18  
*Jillian E. Milanes, Jimmy Suryadi, Jan Abendroth, Wesley C. Van Voorhis, Kayleigh F. Barrett, David M. Dranow, Isabelle Q. Phan, Stephen L. Patrick, Soren D. Rozema, Muhammad M. Khalifa, Jennifer E. Golden, James C. Morris*
- Combination of Cystatins 9 and C Modulates Serum Biomarkers Associated with Inflammation and Provides Prophylactic as Well as Long-Term Protection against Multidrug-Resistant *Klebsiella pneumoniae*** e02519-18  
*Alex J. Holloway, JiehJuen Yu, Bernard P. Arulanandam, Gregg N. Milligan, Tonyia D. Eaves-Pyles*
- Control of *Klebsiella pneumoniae* Infection in Mice by Using Dissolving Microarray Patches Containing Gentamicin** e02612-18  
*Aoife M. Rodgers, Maelíosa T. C. McCrudden, Aaron J. Courtenay, Mary-Carmel Kearney, Katherine L. Edwards, Rebecca J. Ingram, Jose Bengoechea, Ryan F. Donnelly*
- CLINICAL THERAPEUTICS**
- Cycloserine Population Pharmacokinetics and Pharmacodynamics in Patients with Tuberculosis** e00055-19  
*Wael A. Alghamdi, Abdullah Alsultan, Mohammad H. Al-Shaer, Guohua An, Shahriar Ahmed, Yosra Alkabab, Sayera Banu, Ketevan Barbakadze, Eric Houpt, Maia Kipiani, Lali Mikiashvili, Stephan Schmidt, Scott K. Heysell, Russell R. Kempker, J. Peter Cegielski, Charles A. Peloquin*
- Pharmacokinetics, Safety, and Clinical Outcomes of Omadacycline in Women with Cystitis: Results from a Phase 1b Study** e02083-18  
*J. Scott Overcash, Poursu Bhiwandi, Lynne Garrity-Ryan, Judith Steenbergen, Stephen Bai, Surya Chitra, Amy Manley, Evan Tzanis*
- Safety and Efficacy of Prolonged Use of Dalbavancin in Bone and Joint Infections** e02280-18  
*L. Morata, J. Cobo, M. Fernández-Sampedro, P. Guisado Vasco, E. Ruano, J. Lora-Tamayo, M. Sánchez Somolinos, P. González Ruano, A. Rico Nieto, A. Arnaiz, M. Estébanez Muñoz, M. E. Jiménez-Mejías, A. B. Lozano Serrano, E. Múñez, D. Rodríguez-Pardo, R. Argelich, A. Arroyo, J. M. Barbero, F. Cuadra, A. Del Arco, M. D. del Toro, L. Guio, D. Jimenez-Beatty, N. Lois, O. Martin, R. M. Martínez Alvarez, F. J. Martínez-Marcos, L. Porras, M. Ramírez, J. Vergas García, A. Soriano*

- Clinical Data on Daptomycin plus Ceftaroline versus Standard of Care Monotherapy in the Treatment of Methicillin-Resistant *Staphylococcus aureus* Bacteremia** e02483-18  
*Matthew Geriak, Fadi Haddad, Khulood Rizvi, Warren Rose, Ravina Kullar, Kerry LaPlante, Marie Yu, Logan Vasina, Krista Ouellette, Marcus Zervos, Victor Nizet, George Sakoulas*
- A Systematic Review and Meta-analysis of Antibiotic Treatment Duration for Bacteremia Due to *Enterobacteriaceae*** e02495-18  
*Giannoula S. Tansarli, Nikolaos Andreatos, Elina E. Pliakos, Eleftherios Mylonakis*
- Pharmacokinetics of Levofloxacin in Children Treated for Exposure to Drug-Resistant Tuberculosis** e02569-18  
*Amy A. Malik, Meredith B. Brooks, Sara Siddiqui, Junaid Fuad, Charles A. Peloquin, Farhana Amanullah, Maria Jaswal, Mercedes C. Becerra, Hamidah Hussain, Courtney M. Yuen*
- A Novel 1,3-Beta-D-Glucan Inhibitor, Ibrexafungerp (Formerly SCY-078), Shows Potent Activity in the Lower pH Environment of Vulvovaginitis** e02611-18  
*E. L. Larkin, L. Long, N. Isham, K. Borroto-Esoda, S. Barat, D. Angulo, S. Wring, M. Ghannoum*
- PHARMACOLOGY**
- Revising Pediatric Vancomycin Dosing Accounting for Nephrotoxicity in a Pharmacokinetic-Pharmacodynamic Model** e00067-19  
*Frank Klopogge, Louise F. Hill, John Booth, Nigel Klein, Adam D. Irwin, Garth Dixon, Joseph F. Standing*
- Hepatotoxicity Induced by Isoniazid-Lipopolysaccharide through Endoplasmic Reticulum Stress, Autophagy, and Apoptosis Pathways in Zebrafish** e01639-18  
*Yun Zhang, Juan Cen, Zhili Jia, Chung-Der Hsiao, Qing Xia, Xue Wang, Xiqiang Chen, Rongchun Wang, Zhenzhou Jiang, Luyong Zhang, Kechun Liu*
- Evaluation of Saliva as a Potential Alternative Sampling Matrix for Therapeutic Drug Monitoring of Levofloxacin in Patients with Multidrug-Resistant Tuberculosis** e02379-18  
*Samiksha Ghimire, Bhagwan Maharjan, Erwin M. Jongedijk, Jos G. W. Kosterink, Gokarna R. Ghimire, Daan J. Touw, Tjip S. van der Werf, Bhabana Shrestha, Jan-Willem C. Alffenaar*
- A Novel Small Molecule, ZY354, Inhibits Dental Caries-Associated Oral Biofilms** e02414-18  
*Chenzi Zhang, Xinyi Kuang, Yuanzheng Zhou, Xian Peng, Qiang Guo, Tao Yang, Xuedong Zhou, Youfu Luo, Xin Xu*
- Fluoroquinolone Efficacy against Tuberculosis Is Driven by Penetration into Lesions and Activity against Resident Bacterial Populations** e02516-18  
*Jansy Sarathy, Landry Blanc, Nadine Alvarez-Cabrera, Paul O'Brien, Isabela Dias-Freedman, Marizel Mina, Matthew Zimmerman, Firat Kaya, Hsin-Pin Ho Liang, Brendan Prideaux, Jillian Dietzold, Padmini Salgame, Radojka M. Savic, Jennifer Linderman, Denise Kirschner, Elsje Pienaar, Véronique Dartois*
- External Evaluation of Population Pharmacokinetic Models of Vancomycin in Large Cohorts of Intensive Care Unit Patients** e02543-18  
*Tingjie Guo, Reinier M. van Hest, Luca F. Roggeveen, Lucas M. Fleuren, Patrick J. Thorat, Rob J. Bosman, Peter H. J. van der Voort, Armand R. J. Girbes, Ron A. A. Mathot, Paul W. G. Elbers*

**Incidence of Acute Kidney Injury in Critically Ill Patients Receiving Vancomycin with Concomitant Piperacillin-Tazobactam, Cefepime, or Meropenem** e02658-18

*Adam M. Blevins, Jennifer N. Lashinsky, Craig McCammon, Marin Kollef, Scott Micek, Paul Juang*

**LETTERS TO THE EDITOR**

***Proteus mirabilis* Producing the OXA-58 Carbapenemase in Poland** e00106-19

*E. Literacka, R. Izdebski, A. Baraniak, D. Żabicka, A. Schneider, P. Urbanowicz, M. Herda, W. Hryniewicz, M. Gniadkowski*

**Caution Is Required before Recommending Wide Use of Letemovir as Salvage Therapy for Cytomegalovirus Diseases** e00178-19

*Pierre Frange, Marianne Leruez-Ville*

**Reply to Frange and Leruez-Ville, "Caution Is Required before Recommending Wide Use of Letemovir as Salvage Therapy for Cytomegalovirus Diseases"** e00453-19

*Nicholas A. Turner, Cameron R. Wolfe*

**Long-Term Low Rate of Macrolide-Resistant *Mycoplasma pneumoniae* Strains in Germany** e00455-19

*Roger Dumke, Thomas Ziegler*

**Loss of a Major Enterococcal Polysaccharide Antigen (Epa) by *Enterococcus faecalis* Is Associated with Increased Resistance to Ceftriaxone and Carbapenems** e00481-19

*Kavindra V. Singh, Barbara E. Murray*

**First Case of Ceftriaxone-Resistant Multidrug-Resistant *Neisseria gonorrhoeae* in Singapore** e02624-18

*Karrie Kwan Ki Ko, Martin T. W. Chio, Sui Sin Goh, Ai Ling Tan, Tse Hsien Koh, Nurdyana Binte Abdul Rahman*

**Serum Levels of Crushed Posaconazole Delayed-Release Tablets** e02688-18

*Mathew J. Mason, Patrick M. McDanel, William L. Musick, Dimitrios P. Kontoyiannis*

**ERRATUM**

**Erratum for Tun-Yhong et al., "Tenofovir Disoproxil Fumarate Is a New Substrate of ATP-Binding Cassette Subfamily C Member 11"** e00506-19

*Wisith Tun-Yhong, Chatchai Chinpaisal, Perayot Pamonsinlapatham, Sindchai Kaewkitichai*