

Online Now!!  
[www.journals.asm.org](http://www.journals.asm.org)  
Free Access for 1998.

OCTOBER 1998

Volume 4

Number 1

# Antimicrobial Agents & Chemotherapy



Published

monthly

by the

American

Society for

ANTIMICROBIAL AGENTS AND  
CHEMOTHERAPY

VOLUME 42 • OCTOBER 1998 • NUMBER 10

WESTON LIBRAR

OCT 14 1998

J5/120 CLINICAL SCIENCES CENTE  
600 HIGHLAND AV-MADISON, WI 53**George A. Jacoby, Editor in Chief**  
(2000)*Lahey Clinic*  
*Burlington, Mass.***Karen Bush, Editor** (1999)  
*R. W. Johnson Pharmaceutical*  
*Research Institute*  
*Raritan, N.J.***William A. Craig, Editor** (2002)  
*William S. Middleton Memorial*  
*Veterans Hospital*  
*Madison, Wis.***Michael N. Dudley, Editor** (2000)  
*Microcide Pharmaceuticals*  
*Mountain View, Calif.***George M. Eliopoulos, Editor**  
(2000)  
*Beth Israel Deaconess Medical Center*  
*Boston, Mass.***Barbara E. Murray, Editor** (2002)  
*University of Texas Health Science*  
*Center*  
*Houston, Tex.***Spotswood L. Spruance, Editor** (2000)  
*University of Utah School of*  
*Medicine*  
*Salt Lake City, Utah***Lowell S. Young, Editor** (2001)  
*Kuzell Institute for Arthritis & Infectic*  
*Diseases*  
*San Francisco, Calif.*

## EDITORIAL BOARD

Peter C. Appelbaum (2000)  
Gordon L. Archer (1998)  
Michel Arthur (1999)  
Masanori Baba (1998)  
Frank Balis (2000)  
John F. Barrett (1999)  
Arthur L. Barry (1998)  
John G. Bartlett (1999)  
Larry A. Bauer (1998)  
Arnold S. Bayer (2000)  
Jeffrey M. Becker (1999)  
Michel G. Bergeron (1998)  
Jonathan D. Berman (2000)  
Joseph S. Bertino (1999)  
John Anthony Bilello (2000)  
Karen K. Biron (1999)  
Jürg Blaser (2000)  
F. Douglas Boudinot (2000)  
Patricia Bradford (2000)  
Claude Carbon (1998)  
Henry F. Chambers (2000)  
Sarah H. Cheeseman (1998)  
Donald M. Coen (1999)  
Patrice Courvalin (2000)  
William L. Current (1999)  
Michael H. Cynamon (1998)  
Gary V. Doern (1999)  
A. Kirk Field (1999)  
L. Mark Fisher (1999)  
Robert K. Flamm (2000)  
Jean-Marie Frère (2000)John N. Galgiani (1999)  
N. H. Georgopapadakou (2000)  
Dale N. Gerding (2000)  
Thomas D. Gootz (1999)  
Sherwood L. Gorbach (1998)  
Regine Hakenbeck (1998)  
Scott M. Hammer (1998)  
Robert E. W. Hancock (1998)  
H. Hunter Handsfield (1998)  
David Hecht (2000)  
David C. Hooper (1999)  
Clark B. Inderlied (1998)  
Susan E. Jensen (2000)  
James H. Jorgensen (1999)  
A. W. Karchmer (2000)  
Robert E. Kessler (1999)  
Michael E. Klepser (2000)  
Roger Labia (2000)  
Marie Thérèse Labro (1999)  
Brendan A. Larder (1998)  
Philip Todd Lavin (1998)  
James E. Leggett (1999)  
Stephen A. Lerner (1998)  
Stuart B. Levy (1998)  
David Livermore (1998)  
J. Joseph Marr (1998)  
Henry Masur (1999)  
Douglas Mayers (2000)  
Antone A. Medeiros (1998)  
John Mellors (1999)Steven Meshnick (2000)  
Michael H. Miller (1999)  
Johan W. Mouton (2000)  
Henry W. Murray (1999)  
P. K. Narang (1999)  
Franklin A. Neva (1998)  
Thalia I. Nicas (1999)  
Wright Nichols (1998)  
Charles H. Nightingale (1999)  
Hiroshi Nikaido (1998)  
Frank C. Odds (2000)  
James E. Pennington (1998)  
John R. Perfect (1999)  
Brent G. Petty (1998)  
Michael A. Pfaller (2000)  
Ronald Polk (1999)  
R. Keith Poole (1999)  
Steven J. Projan (2000)  
Robert M. Rakita (1999)  
Michael D. Reed (2000)  
Catherine P. Reese (1998)  
Richard C. Reichman (1998)  
John Rex (1999)  
Louis Rice (1998)  
Douglas D. Richman (1999)  
Keith A. Rodvold (1999)  
Allan Ronald (1999)  
John C. Rotschafer (1998)  
Robert H. Rubin (1999)  
Michael J. Rybak (1998)Daniel F. Sahn (1998)  
Dominique Sanglard (2000)  
W. Michael Scheld (1998)  
Raymond F. Schinazi (1998)  
Robert T. Schooley (1999)  
Richard S. Schwalbe (2000)  
David M. Shlaes (2000)  
Thomas R. Shryock (1998)  
Robert W. Sidwell (1999)  
Lynn L. Silver (1999)  
Jean-Pierre Sommadossi (1998)  
James M. Steckelberg (1999)  
Daniel S. Stein (1998)  
Stephen E. Straus (1999)  
Andrew H. Strayer (1999)  
Janice R. Sufrin (2000)  
Alan M. Sugar (1998)  
Francis C. Szoka, Jr. (1998)  
Diane E. Taylor (1999)  
Fred C. Tenover (2000)  
Kenneth S. Thomson (1999)  
Clyde Thornsberry (1998)  
Patrick Trieu-Cuot (2000)  
Hugo Vanden Bossche (1998)  
Jos van der Meer (1999)  
C. C. Wang (2000)  
Bernard Weisblum (2000)  
Richard J. Whitley (1999)  
Richard Wise (1998)  
Geoffrey J. Yuen (1998)**Barbara H. Iglewski, Chairman, Publications Board**  
**Arthur Gelmis, Production Editor****Linda M. Illig, Director, Journals**  
**Robert D. Loper, Assistant Production Editor**

*Antimicrobial Agents and Chemotherapy* (ISSN 0066-4804), an interdisciplinary publication of the American Society for Microbiology (ASM), 1325 Massachusetts Ave., N.W., Washington, DC 20005-4171, is devoted to the dissemination of knowledge relating to all aspects of antimicrobial, antiviral, antiparasitic, and anticancer agents and chemotherapy. Instructions to authors are published in the January issue each year; reprints are available from the editors and the Journals Department. *Antimicrobial Agents and Chemotherapy* is published monthly, one volume per year. Nonmember print subscription prices (per year) are: \$311, U.S.; \$318, Canada (plus 7% GST, or 7% GST + 8% HST where applicable); \$3 Europe; \$370, Latin America; \$373, rest of world. Member print subscription prices (per year) are: \$55, U.S.; \$61, Canada (plus 7% GST, or 7% GST + 8% HST where applicable); \$99, Europe; \$101, Latin America; \$105, rest of world. Single copies are: \$47, nonmember; \$15, member (Canadians add 7% GST, or 7% GST + 8% HST where applicable). For prices of CD-ROM versions, contact the Subscriptions Unit, ASM. Correspondence relating to subscriptions, defective copies, missing issues, and availability of back issues should be directed to the Subscription

# ANTIMICROBIAL AGENTS AND CHEMOTHERAPY

Volume 42

October 1998

No. 10

## MECHANISMS OF ACTION: PHYSIOLOGICAL EFFECTS

- Accumulation of Amphotericin B in Human Macrophages Enhances Activity against *Aspergillus fumigatus* Conidia: Quantification of Conidial Kill at the Single-Cell Level  
Bernhard Jahn, Albert Rampp, Christian Dick, Andreas Jahn, Michael Palmer, and Sucharit Bhakdi 2569-2575
- Targeted Antimicrobial Photochemotherapy  
Nikolaos S. Soukos, Laurie Ann Ximenez-Fyvie, Michael R. Hamblin, Sigmund S. Socransky, and Tayyaba Hasan 2595-2601
- Antiparasitic Effects of the Intra-Golgi Transport Inhibitor Megalomicin  
Pedro Bonay, Isabel Durán-Chica, Manuel Fresno, Balbino Alarcón, and Antonio Alcina 2668-2673
- Inhibitory Activities of Gatifloxacin (AM-1155), a Newly Developed Fluoroquinolone, against Bacterial and Mammalian Type II Topoisomerases  
Masaya Takei, Hideyuki Fukuda, Tokutaro Yasue, Masaki Hosaka, and Yasuo Oomori 2678-2681
- Translation Elongation Factor 2 is Part of the Target for a New Family of Antifungals  
Laura Capa, Alfonso Mendoza, José L. Lavandera, Federico Gómez de las Heras, and José F. García-Bustos 2694-2699
- Proteasome Inhibitors Block Development of *Plasmodium* spp.  
Soren M. Gantt, Joon Mo Myung, Marcelo R. S. Briones, Wei Dong Li, E. J. Corey, Satoshi Omura, Victor Nussenzweig, and Photini Sinnis 2731-2738
- Enhancement of Antimicrobial Activity of Neuropeptide Y by N-Terminal Truncation  
Mayumi Shimizu, Yasushi Shigeri, Yoshiro Tatsu, Susumu Yoshikawa, and Noboru Yumoto 2745-2746

## MECHANISMS OF RESISTANCE

- Sequencing of Gyrase and Topoisomerase IV Quinolone-Resistance-Determining Regions of *Chlamydia trachomatis* and Characterization of Quinolone-Resistant Mutants Obtained In Vitro  
Sophie Dessus-Babus, Cécile M. Bébéar, Alain Charron, Christiane Bébéar, and Bertille de Barbeyrac 2474-2481
- Characterization of In40 of *Enterobacter aerogenes* BM2688, a Class 1 Integron with Two New Gene Cassettes, *cmlA2* and *qacF*  
Marie-Cécile Ploy, Patrice Courvalin, and Thierry Lambert 2557-2563
- Roles of Amino Acids 161 to 179 in the PSE-4  $\Omega$  Loop in Substrate Specificity and in Resistance to Ceftazidime  
Christian Therrien, Francois Sanschagrín, Timothy Palzkill, and Roger C. Levesque 2576-2583
- Rapid, Transient Fluconazole Resistance in *Candida albicans* Is Associated with Increased mRNA Levels of *CDR*  
Kieren A. Marr, Christopher N. Lyons, Tiger Rustad, Raleigh A. Bowden, and Theodore C. White 2584-2589
- Characterization of Mutations in the *rpoB* Gene That

Explaining the Bias in the 23S rRNA Gene Mutations Associated with Clarithromycin Resistance in Clinical Isolates of *Helicobacter pylori*

Characterization of IS18, an Element Capable of Activating the Silent *aac(6)-Ij* Gene of *Acinetobacter* sp. 13 Strain BM2716 by Transposition

Description of Two New Isolates of *Streptococcus pneumoniae* in Spain That Are Highly Resistant to Cefotaxime

## SUSCEPTIBILITY

Structure-In Vitro Activity Relationships of Pentamidine Analogues and Dication-Substituted Bis-Benzimidazoles as New Antifungal Agents

In Vitro Antifungal Activities of a Series of Dication-Substituted Carbazoles, Furans, and Benzimidazoles

Intracellular Delivery and Antibacterial Activity of Gentamicin Encapsulated in pH-Sensitive Liposomes

Identification and Characterization of Novel Antimicrobial Decapeptides Generated by Combinatorial Chemistry

Comparison of Inhibitory and Bactericidal Activities and Postantibiotic Effects of LY333328 and Ampicillin Used Singly and in Combination against Vancomycin-Resistant *Enterococcus faecium*

Antibiotic Susceptibility Patterns of *Streptococcus pneumoniae* in China and Comparison of MICs by Agar Dilution and E-Test Methods

*Haemophilus ducreyi* Is Susceptible to Protegrin

In Vitro Activity of the Echinocandin Antifungal Agent LY303,366 in Comparison with Itraconazole and Amphotericin B against *Aspergillus* spp.

In Vitro Studies of Pharmacodynamic Properties of Vancomycin against *Staphylococcus aureus* and *Staphylococcus epidermidis*

T. J. DeBets-Ossenkopp, A. D. Brinkman, E. J. Kuipers, C. M. J. E. Vandembroucke-Grauls, and J. G. Kusters

Eric Rudant, Patrice Courvalin, and Thierry Lambert

Joaquín Ruiz, Marco Sempere, Encarnación Simarro, and Asunción Fenoll

Maurizio Del Poeta, Wiley A. Schell, Christine C. Dykstra, Susan Jones, Richard R. Tidwell, Agnieszka Czarny, Miroslav Bajic, Marina Bajic, Arvind Kumar, David Boykin, and John R. Perfect

Maurizio Del Poeta, Wiley A. Schell, Christine C. Dykstra, Susan K. Jones, Richard R. Tidwell, Arvind Kumar, David W. Boykin, and John R. Perfect

Peter Lutwyche, Carol Cordeiro, David J. Wiseman, Maryse St-Louis, Mitchell Uh, Michael J. Hope, Murray S. Webb, and B. Brett Finlay

Sung Yu Hong, Jong Eun Oh, Mi yun Kwon, Myeong Jun Choi, Ji Hye Lee, Bok Luel Lee, Hong Mo Moon, and Keun Hyeung Lee

Aldona L. Baltch, Raymond P. Smith, William J. Ritz, and Lawrence H. Bopp

Hui Wang, Robin Huebner, Minjun Chen, and Keith Klugman

Kate Fortney, Patricia A. Totten, Robert I. Lehrer, and Stanley M. Spinola

Karen L. Oakley, Caroline B. Moore, and David W. Denning

E. Löwdin, I. Odenholt, and O. Cars

2749-2751

2759-2761

2768-2769

2495-2502

2503-2510

2511-2520

2534-2541

2564-2568

2633-2636

2690-2693

2726-2730

2739-2744

Continued on following page

Continued from preceding page

In Vitro Susceptibility of *Coxiella burnetii* to Trovafloxacin in Comparison with Susceptibilities to Pefloxacin, Ciprofloxacin, Ofloxacin, Doxycycline, and Clarithromycin

Achilleas Gikas, Ioanna Spyridaki, Anna Psaroulaki, Diamantis Kofterithis, and Yannis Tselentis 2747-2748

In Vitro Activities of 15 Antimicrobial Agents against Clinical Isolates of South African Enterococci

M. C. Struwig, P. L. Botha, and L. J. Chalkley 2752-2755

In Vitro Susceptibilities of *Chlamydia pneumoniae* Strains Recovered from Atherosclerotic Coronary Arteries

Jens Gieffers, Werner Solbach, and Matthias Maass 2762-2764

PMX-622 (Polymyxin B-Dextran 70) Does Not Alter In Vitro Activities of 11 Antimicrobial Agents

Peter C. Fuchs, Arthur L. Barry, and Steven D. Brown 2765-2767

#### ANALYTICAL PROCEDURES

An *Escherichia coli* System Expressing Human Deoxyribonucleoside Salvage Enzymes for Evaluation of Potential Antiproliferative Nucleoside Analogs

Jianghai Wang, Jan Neuhard, and Staffan Eriksson 2620-2625

#### ANTIVIRAL AGENTS

Restoration of Immune Response by a Cationic Amphiphilic Drug (AY 9944) In Vitro: A New Approach to Chemotherapy against Human Immunodeficiency Virus Type 1

Ammar Achour, Jean-Charles Landureau, Rosangela Salerno-Concalves, Jean-Claude Mazière, and Daniel Zagury 2482-2491

Genotypic and Phenotypic Characterization of Human Immunodeficiency Virus Type 1 Variants Isolated from Patients Treated with the Protease Inhibitor Nelfinavir

A. K. Patick, M. Duran, Y. Cao, D. Shugarts, M. R. Keller, E. Mazabel, M. Knowles, S. Chapman, D. R. Kuritzkes, and M. Markowitz 2637-2644

#### EXPERIMENTAL THERAPEUTICS

Granulocyte Colony-Stimulating Factor and Azole Antifungal Therapy in Murine Aspergillosis: Role of Immune Suppression

John R. Graybill, Rosie Bocanegra, Laura K. Najvar, David Loebenberg, and Mike F. Luther 2467-2473

Mucoadhesive Microspheres Containing Amoxicillin for Clearance of *Helicobacter pylori*

Naoki Nagahara, Yohko Akiyama, Masafumi Nakao, Mayumi Tada, Megumi Kitano, and Yasuyuki Ogawa 2492-2494

Interaction of *Streptococcus pneumoniae* and *Moraxella catarrhalis*: Investigation of the Indirect Pathogenic Role of  $\beta$ -Lactamase-Producing *Moraxellae* by Use of a Continuous-Culture Biofilm System

R. K. Budhani and J. K. Struthers 2521-2526

Reduction by Cefodizime of the Pulmonary Inflammatory Response Induced by Heat-Killed *Streptococcus pneumoniae* in Mice

Yves Bergeron, Nathalie Ouellet, Anne-Marie Deslauriers, Marie Simard, Martin Olivier, and Michel G. Bergeron 2527-2533

Efficacies of KY62 against *Leishmania amazonensis* and *Leishmania donovani* in Experimental Murine Cutaneous Leishmaniasis and Visceral Leishmaniasis

Hail M. Al-Abdely, John R. Graybill, Rosie Bocanegra, Laura Najvar, Eleanor Montalbo, Steven L. Regen, and Peter C. Melby 2542-2548

Interleukin-12 Enhances In Vivo Parasitocidal Effect of Benznidazole during Acute Experimental Infection with a Naturally Drug-Resistant Strain of *Trypanosoma cruzi*

Vladimir Michailowsky, Silvana M. F. Murta, Leonardo Carvalho-Oliveira, Maria F. S. Pereira 2549-2556

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.