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Program and Abstracts

The Twenty-First International Conference on Antiviral Research

Sponsored by:

The International Society For Antiviral Research

Le Centre Sheraton Hotel

Montreal, Quebec, Canada

April 13–17, 2008

Table of Contents

Organization and Conference Committees	A3
Organizing Secretariats, The International Society for Antiviral Research	A4
Corporate Sponsors	A5
Keynote Address, Social Functions	A6
Scientific Program	A7
Sunday, April 13, 2008	A8
Keynote Address	A8
Monday, April 14, 2008	A8
Oral Session I: Mini-Symposium: Novel Targets for HIV Therapy	A8
Oral Session II: Respiratory and Emerging Viruses	A8
Poster Session I: Retroviruses, Hepatitis Viruses, Respiratory Viruses, Emerging Viruses, and Antiviral Methods	A12
Tuesday, April 15, 2008	A9
Oral Session III: Hepatitis Viruses	A9
Clinical Symposium: Clinical Update on Antiviral Drugs	A10
Poster Session II: Herpesviruses, Topical Microbicides, Poxviruses, Other Antiviral Agents, Medicinal Chemistry, and Animal Models	A15
Wednesday, April 16, 2008	A10
Oral Session IV: Retroviruses	A10
Oral Session V: Herpesviruses and Poxviruses	A10
Shotgun Poster Session	A11
Thursday, April 17, 2008	A11
Oral Session VI: Other Viruses, Veterinary Viruses, and Late Breaker Presentations	A11
Abstracts	A18
Complete Author Index	A69
Invitation to the 22nd International Conference on Antiviral Research	A75
Locations for Future International Conferences on Antiviral Research	A76

Organization

International Society for Antiviral Research and Twenty-First International Conference on Antiviral Research

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The International Society for Antiviral Research (ISAR)

The Society was organized in 1987 as a non-profit scientific organization for the purpose of advancing and disseminating knowledge in all areas of antiviral research. To achieve this objective, the Society organizes an annual meeting. The Society is now in its 21st year of existence, and has approximately 450 members representing 30 countries. For membership application forms or further information, please contact Dr. Joseph M. Colacino, Secretary, ISAR; Vice President, Drug Discovery, PTC Therapeutics, Inc., 100 Corporate Court, South Plainfield, NJ 07080, phone: +1 908 222 7000x131; fax: +1 908 222 0567; E-mail: jcolacino@ptcbio.com. Membership application forms will also be available at the Conference Registration desk, or from our website www.isar-icar.com.



Contributors to the 21st International Conference on Antiviral Research



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KEYNOTE ADDRESS**“The Next Decade of Antiviral Chemotherapy”**

Mark Wainberg, Ph.D.

Sunday, April 13, 2008

5:00–6:00 p.m.

Salle de bal ouest

Le Centre Sheraton Hotel

MINI-SYMPOSIA**“Novel Targets for HIV Therapy”**

Monday, April 14, 2008

8:00 a.m.–12:00 p.m.

Salle de bal ouest

Le Centre Sheraton Hotel

“Clinical Update on Antiviral Drugs”

Tuesday, April 15, 2008

1:00–4:00 p.m.

Salle de bal ouest

Le Centre Sheraton Hotel

SOCIAL EVENTS**Opening Reception**

with light hors d'oeuvres

Sunday, April 13, 2008

6:00–8:00 p.m.

Salon Drummond

Le Centre Sheraton Hotel

Conference Banquet

Wednesday, April 16, 2008

Reception

7:30 p.m.

Foyer Salle de bal

Le Centre Sheraton Hotel

Dinner and Program

8:00–10:00 p.m.

Salle de bal ouest

Le Centre Sheraton Hotel

Final Program

Twenty-First International Conference on Antiviral Research

Sponsored by the

International Society for Antiviral Research

Le Centre Sheraton Hotel

Montreal, Quebec, Canada

April 13–17, 2008

2008 International Conference on Antiviral Research**Sunday, April 13, 2008****Opening Greetings**

Salle de bal ouest

16:45 Welcome to the 21st ICAR, Christopher McGuigan, Ph.D., President, ISAR

16:50 Welcome to Montreal, John A. Secrist III, Ph.D., Chair, ICAR Conference Committee

16:55 Introduction of the Keynote Speaker, Amy Patick, Ph.D., President-Elect, ISAR

Keynote Address

Salle de bal ouest

17:00 Keynote Address Speaker: Mark Wainberg, Ph.D., McGill University, Montreal, Quebec, Canada “The Next Decade of Antiviral Chemotherapy”

Monday, April 14, 2008**Oral Session 1: Mini-Symposium: Novel Targets for HIV Therapy**

Chairs: Tomas Cihlar, Ph.D. and Jose Este, Ph.D.

Salle de bal ouest

08:00 a.m.–12:00 p.m.

08:00 1. APOBEC 3G: Innate Defense Against Retroviruses and Retroelements

Warner Greene, M.D.

Gladstone Institute of Virology and Immunology, San Francisco, CA, USA

08:30 2. LEDGF/P75 as a Co-factor of HIV-1 Integrase and as a New Antiviral Target

Zeger Debyser, M.D., Ph.D.

IRC, KULAK and KULeuven, Leuven, Belgium

09:00 3. Trim 5 Alpha-mediated Late Restriction on HIV-1 Production

Yasuhiro Ikeda, Ph.D.

Mayo College of Medicine, Rochester, MN, USA

09:30 Break

10:00 4. Assembly of the Immature and Mature Viral Structure as Potential Antiviral Target

Hans-Georg Krausslich, M.D.

University of Heidelberg, Heidelberg, Germany

10:30 5. Late Stages of the HIV-1 Replication Cycle as Targets for Novel Antiviral Agents

Eric Freed, Ph.D.

HIV Drug Resistance Program, National Cancer Institute, Frederick, MD, USA

11:00 6. The Role of Vpu Protein in HIV-1 Pathogenesis

Edward Stephens, Ph.D.

University of Kansas Medical Center, Kansas City, KS, USA

11:30 Panel Discussion

Elion Award Lecture

Salle de bal ouest

13:15 Presentation of Award: Christopher McGuigan, Ph.D., President ISAR Awardee Lecture: Jan Balzarini, Ph.D., Rega Institute for Medical Research, Leuven, Belgium “The Potential of Carbohydrate Binding Agents as Novel Therapeutics to Treat Enveloped Virus Infections”

Oral Session 2: Respiratory and Emerging Viruses

Chairs: Colleen Jonsson, Ph.D. and Simon Tucker, Ph.D.

Salle de bal ouest

02:00–04:00 p.m.

14:00 7. Peptide-based Entry Inhibitors for Influenza

Thomas Voss¹, Christopher LeBlanc¹, Joseph Barbercheck¹, Bryan Kaplan¹, Russell Wilson², Garry Robert¹¹Tulane School of Medicine, New Orleans, LA, USA; ²Autoimmune Technologies, LLC, New Orleans, LA, USA

14:15 8. Factors Affecting Susceptibility of H5N1 Influenza Viruses to Neuraminidase Inhibitor Oseltamivir

Elena Govorkova¹, Natalia Ilyushina¹, Jennifer McClaren¹, Tri Naipospos², Neziha Yilmaz³, Bounlom Douangngeun⁴, Robert Webster¹¹St. Jude Children's Research Hospital, Memphis, TN, USA; ²Indonesia National Committee on Avian Flu Control and Pandemic Influenza Preparedness, Jakarta, Indonesia; ³Virology and NIC of Turkey Refik Saydam Hygiene Institute, Ankara, Turkey; ⁴National Animal Health Centre, Vientiane, Laos14:30 9. *In Vivo* Synergistic Combination Effect of Rimantadine and Oseltamivir Against Influenza A(H3N2) is Manifested in Several Dose Ratios

Lora Simeonova, Angel S. Galabov, Galina Gegova

The Stephan Angeloff Institute of Microbiology, Bulgarian Academy of Sciences, Sofia, Bulgaria

14:45 10. Development of Novel Selective Parainfluenza Virus Hemagglutinin–Neuraminidase Inhibitors

Irina V. Alymova¹, Makiko Watanabe¹, Vasilii P. Mishin¹, Y. Sudhakara Babu², Allen Portner¹¹Department of Infectious Diseases, St. Jude Children's Research Hospital, Memphis, TN, USA; ²BioCryst Pharmaceutical, Inc., Birmingham, AL, USA

- 15:00 11. Evaluation of Interferon Inducers, Ribavirin and Mouse Hyperimmune Serum in a Pathogenesis/Lethal Mouse Model Using a Mouse-adapted SARS-CoV
Dale Barnard¹, Craig Day¹, Miles Wandersee¹, Yohichi Kumaki¹, Andres Salazar²
¹Utah State University, Logan, UT, USA; ²Oncovir, Inc., Washington DC, DC, USA
- 15:15 12. Therapies and Mechanisms of West Nile Virus Encephalitis and Neurological Sequelae
John D. Morrey¹, Venkatraman Sidharthan¹, Hong Wang¹, Neil Motter¹, Jeffery O. Hall¹, Robert D. Skinner²
¹Institute Antiviral Research, Department of Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, UT, USA; ²Center for Translational Neuroscience and Department of Neurobiology and Developmental Sciences, University of Arkansas Medical Sciences, Little Rock, AR, USA

Tuesday, April 15, 2008**Oral Session 3: Hepatitis Viruses**

Chairs: Phillip Furman, Ph.D. and Todd Parsley, Ph.D.

Salle de bal ouest

08:00–11:30 a.m.

- 08:00 13. Plenary: HCV Culture System and Antiviral Development
Takaji Wakita
Director, National Institute of Infectious Diseases, Tokyo, Japan
- 08:30 14. Identification of Halosalicylamide Derivatives as a Novel Class of Allosteric Inhibitors of HCV NS5B Polymerase
Yaya Liu, Pamela Donner, Wen Jiang, Teresa Ng, Vijaya Gracias, Steve Baumeister, Paul Wiedeman, Linda Traphagen, Usha Warrior, Clarence Maring, Warren Kati, Stevan Djuric, Akhteruzzaman Molla
Antiviral Research, Abbott Laboratories, Abbott Park, IL, USA
- 08:45 15. Anti-Hepatitis C Virus Replicon Activity of Alkoxyalkyl Esters of (S)-HPMPA and Other Acyclic Nucleoside Phosphonates
David L. Wyles¹, Robert T. Schooley¹, Kelly A. Kaihara¹, James R. Beadle^{1,2}, Karl Y. Hostetler^{1,2}
¹Division of Infectious Disease, University of California, San Diego, La Jolla, CA, USA; ²Veterans Medical Research Foundation, San Diego, CA, USA
- 09:00 16. Discovery of a Novel HCV Helicase Inhibitor by a De Novo Drug Design Approach
Andrea Brancale¹, Dimitrios Vlachakis¹, Sahar Kandil¹, Sonia Biondaro¹, Colin Berry², Johan Neyts³
¹The Welsh School of Pharmacy, Cardiff University, Cardiff, United Kingdom; ²School of Bioscience, Cardiff University, Cardiff, United Kingdom; ³Rega Institute for Medical Research, KULeuven, Leuven, Belgium
- 09:15 Break
- 09:45 17. PG 301029 Inhibits HCV Replication Through a Novel Late Stage Mechanism of Action
Todd B. Parsley, Lu Yang, Robert W. Buckheit Jr.
ImQuest BioSciences, Inc., Frederick, MD, USA
- 10:00 18. Different Incorporation Efficiencies for Nucleotide Analogs During HCV Polymerase RNA Synthesis Initiation and Elongation Phases
Han Ma¹, Nicole Inocencio¹, Vincent Leveque¹, Genadiy Kalayanov², David Smith¹, Nick Cammack¹, Nils Gunnar Johansson², Klaus Klumpp¹
¹Roche, Palo Alto, CA, USA; ²Medivir AB, Huddinge, Sweden
- 10:15 19. HCV RNA Helicase Requirement for NS3 Oligomerization is Substrate-dependent: Characterization of RNA Substrates with Different Double Strand Lengths and RNA Binding-dependent Inhibition
Julie Hang, Yanli Yang, Vincent Leveque, Tony Giannetti, George Stepan, Nick Cammack, Klaus Klumpp
Roche, Palo Alto, CA, USA
- 10:30 20. Evaluation of MK-7009, A Novel Macrocyclic Inhibitor of NS3/4A Protease, in the Chimpanzee Model of Chronic Hepatitis C Virus Infection
S. Ludmerer, D. Graham, L. Handt, C. Fandozzi, C. Burlein, N. Liverton, J. McCauley, J. Vacca, D. Hazuda, S. Carroll, D. Olsen
Merck Research Labs, West Point, PA, USA
- 10:45 21. Novel Five-membered Ring Imino Sugar Derivatives Inhibit Flaviviruses via Distinct Mechanisms
Jinhong Chang¹, Lijuan Wang¹, Dongling Ma¹, Robert Moriarty³, Benjamin Davis⁴, Peter Mason⁵, Baohua Gu¹, Xiaodong Xu⁶, Ju-Tao Guo¹, Timothy Block^{1,2}
¹Drexel University College of Medicine, Doylestown, PA, USA; ²Hepatitis B Foundation, Doylestown, PA, USA; ³University of Illinois, Chicago, IL, USA; ⁴University of Oxford, Oxford, United Kingdom; ⁵University of Texas Medical Branch, Galveston, TX, USA; ⁶Pharmabridge Inc., Doylestown, PA, USA
- 11:00 22. A Novel and Selective Inhibitor of Hepatitis B Virus Surface Antigen Secretion
Anne Marie Dougherty¹, Haitao Guo², Gael Westby¹, Yuanjie Liu², Ju-Tao Guo², Anand S. Mehta², Pamela Norton², Baohua Gu², Timothy M. Block^{1,2}, Andrea Cuconati¹
¹Institute for Hepatitis and Virus Research, Doylestown, PA, USA; ²Drexel Institute for Biotechnology and Virology Research, Doylestown, PA, USA
- 11:15 23. Preclinical Development of the Amphipathic DNA Polymer REP 9AC for the Treatment of Hepatitis B Virus Infection
Faseeha Noordeen¹, Andrew Vaillant², Jean-Marc Juteau², Allison Jilbert^{1,3}
¹School of Molecular and Biomedical Science, The University of Adelaide, Adelaide, Australia; ²REPLICor Inc., Laval, QC, Canada; ³Infectious Diseases Laboratories, Institute of Medical and Veterinary Science, Adelaide, Australia

Clinical Symposium: Clinical Update on Antiviral Drugs

Chairs: Richard Pollard, Ph.D. and Ann Kwong, Ph.D.

Salle de bal ouest

01:00–04:00 p.m.

Wednesday, April 16, 2008**Prusoff Young Investigator Award Lecture**

Salle de bal ouest

08:00 Presentation of Award: Christopher McGuigan, Ph.D., President ISAR Awardee Lecture: Bruno Canard, Ph.D., Marseille, France “The Structure and Mechanism of RNA Virus Replication Enzymes: Endless Challenges for Drug Design”

Oral Session 4: Retroviruses

Chairs: Eric Freed, Ph.D. and Andrea Brancale, Ph.D.

Salle de bal ouest

08:45–11:30 a.m.

- 08:45 24. Characterization of a Novel Series of gp120 Inhibitors
Tanya Parkinson, Peter Stephenson, Chris Pickford, Thien Duc Tran, David Williams, David Fenwick, Juin Fok-Seang, Iain Gardner, Mike Westby, Don Middleton, Manos Perros
Pfizer Global R&D, Sandwich, United Kingdom
- 09:00 25. Novel Mechanism of Action of Pyrimidinediones Yields Enhanced Sensitivity to Multi-Drug Resistant Virus Strains
Robert W. Buckheit Jr., Lu Yang, Tracy L. Hartman, Karen M. Watson
ImQuest BioSciences, Inc., Frederick, MD, USA
- 09:15 26. Development of the Dual Acting Pyrimidinedione IQP0528 as a Vaginal Topical Anti-HIV Microbicide
Karen M. Watson, Lu Yang, Christa E. Buckheit, Robert W. Buckheit Jr.
ImQuest BioSciences, Inc., Frederick, MD, USA
- 09:30 Break
- 09:50 Invitation to the 22nd ICAR, Miami Beach, FL, USA, John A. Secrist III, Ph.D.
- 10:00 ISAR Business Meeting
- 10:15 27. Enzyme-triggered CycloSal-Pronucleotides
Chris Meier¹, Henning Jessen¹, Nicolas Gisch¹, Jan Balzarini²
¹Institute of Organic Chemistry, University of Hamburg, Faculty of Science, Martin-Luther-King-Platz 6, 20146 Hamburg, Germany; ²Rega Institute for Medical Research, Catholic University of Leuven, Minderbroedersstraat 10, 3000 Leuven, Belgium
- 10:30 28. Peptide-based Inhibitors of HIV-1 RT Dimerization and Pol-polyprotein Maturation
Pascal Clayette¹, Audrey Agopian², Nathalie Dereuddre-Bosquet¹, Chritine Goffinet³, Rahima Yousfi¹, Jérôme Depollier², Karen Storck¹, Eric Gros², Oliver Keppler³, Gilles Divita²
¹Neurovirology Department, SPI-BIO, Fontenay aux Roses, France; ²CRBM, CNRS, Montpellier, France; ³Virology Department, University of Heidelberg, Heidelberg, Germany
- 10:45 29. Low *In Vitro* Potential for Class-specific Toxicity of GS-9148, A Novel Nucleotide Reverse Transcriptase Inhibitor
Genevieve Laflamme¹, Constantin Boojamra¹, Lijun Zhang¹, Hon Hui¹, Robyn Fisher², Richard Mackman¹, Adrian Ray¹, Tomas Cihlar¹
¹Gilead Sciences, Foster City, CA, USA; ²Vitron, Tucson, AZ, USA
- 11:00 30. Pth15: An Interfacial Inhibitor of HIV-1 Integrase That Efficiently Blocks HIV-1 Replication
Edwige Gros¹, Edwige Guiot¹, Audrey Agopian¹, Eric Deprez², Jean Francois Mouscadet², Myriam Witvrouw³, Gilles Divita¹
¹UMR 5237 CNRS CRBM, Montpellier, France; ²LBPA-CNRS UMR 8113, Cachan, France; ³LMVD University of Leuven, Leuven, Belgium
- 11:15 31. Effective Small Interfering RNAs Targeting Alpha V Integrin Inhibit HIV-1 Replication
Eduardo Pauls¹, Ester Ballana¹, Imma Clotet-Codina¹, Berta Bosch¹, Françoise Perron-Sierra², Gordon Tucker², Bonaventura Clotet¹, Jose Esté¹
¹Retrovirology Laboratory IrsiCaixa, Badalona, Spain; ²Institut de Recherches Servier, Croissy sur Seine, France

Oral Session 5: Herpesviruses and Poxviruses

Chairs: Rhonda Cardin, Ph.D. and Daniel Streblow, Ph.D.

Salle de bal ouest

01:30–04:15 p.m.

- 13:30 32. Plenary: Role of Angiogenesis and Wound Repair Factors in the Acceleration of Allograft Rejection by Cytomegalovirus
Daniel Streblow
Oregon Health and Science University, Beaverton, OR, USA
- 14:00 33. Design, Synthesis and Evaluation of Novel Anti-VZV BCNAs
Christopher McGuigan¹, Marco Migliore¹, Geoffrey Henson², Joseph Patti², Graciela Andrei³, Robert Snoeck³, Jan Balzarini³
¹Cardiff University, Cardiff, United Kingdom; ²Inhibitex, Alpharetta, GA, USA; ³Rega Institute, Leuven, Belgium

- 14:15 34. Maribavir Inhibits the Replication of Human Herpesvirus 6 and the Activity of the U69 Protein Kinase
Mark Prichard, Shannon Daily, Amie Perry, Earl Kern
University of Alabama School of Medicine, Birmingham, AL, USA
- 14:30 35. Antiviral Potency of ST-246 on the Production of Enveloped Orthopoxviruses and Characterization of ST-246 Resistant Vaccinia, Cowpox and Camelpox Viruses
Sophie Duraffour^{1,2}, Solenne Vigne², Aude Gracel², Robert Jordan³, Dennis E. Hruby³, Jean-Marc Crance², Daniel Garin², Graciela Andrei¹, Robert Snoeck¹
¹Rega Institute, Leuven, Belgium; ²CRSSA, Grenoble, France; ³SIGA Technologies, Inc., Corvallis, OR, USA
- 14:45 36. Vaccinia DNA Polymerase is Profoundly Inhibited by Cidofovir and (S)-HPMPA Incorporated into the Template Strand
Wendy Magee¹, Karl Hostetler², David Evans¹
¹University of Alberta, Edmonton, AB, Canada; ²University of California, San Diego, CA, USA
- 15:00 37. Development of a Model for the Study of Antivirals Against Molluscum Contagiosum Virus (MCV)
Graciela Andrei¹, Joos Van den Oord², Rita De Vos², Sophie Duraffour¹, Arlette Blondeel³, Thiery Simonart⁴, Erik De Clercq¹, Robert Snoeck¹
¹Rega Institute, Leuven, Belgium; ²Pathology Department, UZ Leuven, Leuven, Belgium; ³Dermatology Department, Saint Pierre Hospital, Brussels, Belgium; ⁴Dermatology Department, Erasmus Hospital, Brussels, Belgium
- 15:15 38. *In Vitro* and *In Vivo* Efficacy of a Pyrimidine Nucleoside Analog Against Vaccinia and Cowpox Viruses
Debra Quenelle¹, Mark Prichard¹, Kathy Keith¹, Deborah Collins¹, Terri Rice¹, John Secrist², Kamal Tiwari², Joseph Maddry², Earl Kern¹
¹The University of Alabama, School of Medicine, Birmingham, AL, USA; ²Southern Research Institute, Birmingham, AL, USA
- 15:30 39. Effect of Treatment with the Cidofovir Analogue HDP-CDV in Guinea Pig Models of Cytomegalovirus Infection
Fernando Bravo¹, Rhonda Cardin¹, Karl Hostetler², David Bernstein¹
¹Cincinnati Children's Hospital Medical Center, University of Cincinnati, Division of Infectious Diseases, Cincinnati, OH, USA; ²Division of Infectious Diseases, University of California, San Diego, La Jolla, CA, USA
- 15:45 40. A Single Accelerating Dose Study to Evaluate Safety and Pharmacokinetics (PK) of FV-100 in Healthy Subjects
S.M. Canas¹, B. Wargin², B. Boehlecke³, G. Henson⁴, J.M. Patti⁴, A.M. Morris⁴
¹Prism Research, St. Paul, MN, USA; ²PK-PM Associates, Chapel Hill, NC, USA; ³Rho, Inc., Chapel Hill, NC, USA; ⁴Inhibitex, Inc., Alpharetta, GA, USA
- 16:00 41. Single-Dose Safety and Pharmacokinetics of ST-246, A Novel Orthopoxvirus Egress Inhibitor
Robert Jordan¹, Kevin Jones¹, Tove Bolken¹, Deborah Tien¹, Josef Strasser², Shanthakumar T.R.¹, Annie Frimm³, Michael Corrado³, Phoebe Strome³, Dennis Hruby¹
¹SIGA Technologies, Corvallis, OR, USA; ²TranTech Pharma, High Point, NC, USA; ³INC Research, Inc., Raleigh, NC, USA

Shotgun Poster Session

Chairs: Joseph Colacino, Ph.D. and Mark Prichard, Ph.D.

Salle de bal ouest

04:15–06:15 p.m.

Thursday, April 17, 2008**Oral Session 6: Other Viruses, Veterinary Viruses, and Late Breaker Presentations**

Chairs: David Rock, DVM and Justin Julander, Ph.D.

Salle de bal ouest

09:00–11:30 a.m.

- 08:00 42. Plenary: Use of Antivirals for Control of High Consequence Animal Diseases
Daniel L. Rock
University of Illinois at Urbana-Champaign, Urbana, IL, USA
- 08:30 43. Design, Synthesis and Evaluation of 3-Ethynyl-Azole Nucleosides with Antiviral Activity Against Hantaviruses
Jeffrey Arterburn¹, Sidath Kumarapperuma¹, Marjan Jeselnik¹, Dong-Hoon Chung², Yangie Sun², Willaim Parker², Yong Kyu Chu², Colleen Jonsson²
¹New Mexico State University, Las Cruces, NM, USA; ²Southern Research Institute, Birmingham, AL, USA
- 08:45 44. A Derivate of the Antibiotic Doxorubicin Inhibits Dengue and Yellow Fever Virus Replication *In Vitro*
Suzanne Kaptein¹, Michael Jacobs², Andrea Gamarnik³, Erik De Clercq¹, Ferenc Sztaricskai⁴, Johan Neyts¹
¹Rega Institute, Leuven, Belgium; ²Royal Free and University College Medical School, London, United Kingdom; ³Fundacion Instituto Leloir, Buenos Aires, Argentina; ⁴University of Debrecen, Debrecen, Hungary
- 09:00 45. One-third of the Surface of the Adenovirus Proteinase Contains Potential Drug Targets via a New Paradigm for Virion Maturation
Walter Mangel
Brookhaven National Laboratory, Upton, NY, USA
- 09:15 Break
- 09:45 46. Efficacy of T-1106 or T-705, Alone or in Combination with Ribavirin, in the Treatment of Hamsters Infected with Yellow Fever Virus
Justin Julander¹, Kristiina Shafer¹, Don Smee¹, John Morrey¹, Yousuke Furuta²
¹Institute for Antiviral Research, Utah State University, Logan, UT, USA; ²Toyama Chemical Co. Ltd., Tokyo, Japan

10:00	Late Breaker Presentation
10:15	Late Breaker Presentation
10:30	Late Breaker Presentation
10:45	Late Breaker Presentation
11:00	Late Breaker Presentation
11:15	Late Breaker Presentation

Monday, April 14, 2008

Poster Session I: Retroviruses, Hepatitis Viruses, Respiratory Viruses, Emerging Viruses, and Antiviral Methods

Salle de bal centre et est

47. AlphaV Integrin-mediated Adhesion of Monocyte-derived Macrophages Influences HIV Infection
Ester Ballana¹, Eduardo Pauls¹, Imma Clotet-Codina¹, Berta Bosch¹, Françoise Perron-Sierra², Gordon Tucker², Bonaventura Clotet¹, Jose Esté¹
¹Retrovirology Laboratory IrsiCaixa, Badalona, Spain; ²Institut de Recherches Servier, Croissy sur Seine, France
48. Use of the HCV Cell Culture (HCVcc) System for Antiviral Drug Testing
Jodi Beattie, Jacob Simmons, Amine Noueiry, Paul Olivo
Apath LLC, St. Louis, MO, USA
49. *In Vitro* Vascular Leak as a Model of Viral Hemorrhagic Fever
Rebecca Brocato, Voss Thomas
Tulane School of Medicine, New Orleans, LA, USA
50. Resistance to Pyrimidinedione HIV Inhibitors Requires Multiple Mutations in Reverse Transcriptase, Envelope and Core Proteins
Robert W. Buckheit Jr., Christa E. Buckheit, Robert W. Buckheit III, Karen M. Watson
ImQuest BioSciences, Inc., Frederick, MD, USA
51. Azaindole-based HIV-1 Integrase Specific Inhibitors Display Potent Anti-Retroviral Activity
Scott Butler¹, Michael Plewe², Atsuo Kuki², Teddy Johnson², Qinghai Peng², Dorothy Delisle², Joanne Graham², Hua Wu², Amy Patick²
¹Pfizer Global R&D, Sandwich Labs, Sandwich, United Kingdom; ²Pfizer Global R&D, La Jolla Labs, La Jolla, CA, USA
52. Establishment of a Cell-based HTS System for Discovery of Anti-Flavivirus Drugs
Yali Chen, Chris Harver, Travis Warren, Dennis Hruby, Robert Jordan
SIGA Technologies, Corvallis, OR, USA
53. Mevastatin Markedly Potentiates the Anti-HCV Activity of Selective Inhibitors of HCV Replication and Delays or Prevents the Emergence of Antiviral Resistance
Leen Delang, Johan Neyts
Rega Institute for Medical Research, KULeuven, B-3000 Leuven, Belgium
54. Comparative Virtual and Experimental Medium Throughput Screening for Hepatitis C Virus Polymerase Inhibitors
Helene Dutartre¹, Cecile Bussetta¹, Stephane Betzi², Joelle Boretto-Soler¹, Claire Debarnot¹, Mohamed Ben-Rahou¹, Jean-Louis Romette¹, Jean Claude Guillemot¹, Karine Alvarez¹, Xavier Morelli², Bruno Canard¹
¹Department of Virology, AFMB-CNRS Université d'Aix-Marseille, Marseille, France; ²CNRS-IBSM BIP laboratory, Marseille, France
55. MIV-170, A Novel NNRTI Exhibiting Tight Binding to HIV-1 Reverse Transcriptase (RT)
Malin Elinder¹, Helena Danielson¹, Torsten Unge², Guido VanHam³, Bo Öberg⁴
¹Department of Biochemistry and Organic Chemistry, BMC, Uppsala University, Uppsala, Sweden; ²Department of Cell and Molecular Biology, BMC, Uppsala University, Uppsala, Sweden; ³Department of Microbiology, Institute of Tropical Medicine, Antwerpen, Belgium; ⁴Medivir AB, Huddinge, Sweden
56. Inverse Wavelet Transform in Virus–Cell Interaction Imaging
Andriy Fedchuk¹, Iryna Bartsykovska¹, Alla Fedchuk², Oleksandr Fedchuk¹
¹I.I. Mechnikov Odessa National University, Odessa, Ukraine; ²I.I. Mechnikov Ukrainian Anti-Plague Research Institute, Odessa, Ukraine
57. New Microscopic Description of Herpes Virus–Cell Dynamic System
Oleksandr Fedchuk¹, Alla Fedchuk², Iryna Bartsykovska¹, Andriy Fedchuk¹
¹I.I. Mechnikov Odessa National University, Odessa, Ukraine; ²I.I. Mechnikov Ukrainian Research Anti-Plague Institute, Odessa, Ukraine
58. Dielectric Spectroscopy as a Tool for Virus–Cell Interaction Rate Description
Oleksandr Fedchuk¹, Andriy Fedchuk¹, Iryna Bartsykovska¹, Alla Fedchuk²
¹I.I. Mechnikov Odessa National University, Odessa, Ukraine; ²I.I. Mechnikov Ukrainian Anti-Plague Research Institute, Odessa, Ukraine
59. Placental and Monocyte-derived Macrophages have Different Secretome
Katia Garcia¹, Vivian Garcia¹, Juliana Perez¹, Fenghai Duan², Loyda Melendez¹
¹University of Puerto Rico-Medical Sciences Campus, San Juan, PR, Puerto Rico; ²University of Nebraska Medical Center, Omaha, NE, USA
60. Inhibition of Human Rhinovirus Replication by Some Antivirals
Irina Georgieva, Angel S. Galabov
The Stephan Angeloff Institute of Microbiology, Bulgarian Academy of Sciences, Sofia, Bulgaria
61. Broad Anti-Infective Activity of Viracea, An *Echinacea*-derived Product
Tracy L. Hartman¹, Karen M. Watson¹, Lu Yang¹, Meryl J. Squires², Robert W. Buckheit Jr.¹
¹ImQuest BioSciences, Inc., Frederick, MD, USA; ²Merix Pharmaceutical Corporation, Barrington, IL, USA

62. Serine Palmitoyltransferase Inhibitor Suppresses HCV Replication in a Mouse Model
Yuichi Hirata¹, Takuya Umehara¹, Masayuki Sudoh², Fumihiko Yasui¹, Michinori Kohara¹
¹Department of Microbiology and Cell Biology, The Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan; ²Kamakura Research Laboratories, Chugai Pharmaceutical Co. Ltd., Kanagawa, Japan
63. New Synthetic Histone Deacetylase Inhibitors CGMC0005 and CGMC0006 Effectively Reactivate Latently Infected Human Immunodeficiency Virus Type-1 (HIV-1) from ACH2 and J1.1 CD4+ T Cells
Kee-Jong Hong, Sung-Soon Kim, Hak Sung Lee, Joo-Shil Lee, Byeong-Sun Choi
Korea Institute of Health, Seoul, Republic of Korea
64. Optimization of shRNA Features for Targeting Hepatitis C Virus
Brian Johnston¹, Alexander Vlassov³, Brent Korba², Kristine Farrar², Sampa Mukerjee², Attila Seyhan⁴, Heini Ilves¹, Roger Kaspar⁵, Devin Leake⁶, Sergei Kazakov¹, Qing Ge¹
¹Somagenics Inc., Santa Cruz, CA, USA; ²Georgetown University Medical Center, Rockville, MD, USA; ³Ambion, Austin, TX, USA; ⁴Open Biosystems, Huntsville, AL, USA; ⁵Transderm Inc., Santa Cruz, CA, USA; ⁶Thermo Fisher Scientific, Lafayette, CO, USA
65. Anti-Influenza A Virus Inhibitory Effect of (–)-Epigallocatechin-3-O-Gallate Fatty Acid Monoester Derivatives
Kunihiro Kaihatsu, Shuichi Mori, Nobuo Kato
Osaka University, Osaka, Japan
66. Computational Studies of gp41 6-Helix Bundle: Do Stabilized Energy of HIV Membrane Fusion Inhibitor C34 and Interaction Energy of gp41 6-Helix Bundle have Good Correlation with their Inhibitory Activity?
Norihito Kawashita^{1,2}, Yu-Shi Tian¹, Masashi Yasuda¹, U. Chandimal de Silva², Rie Kashiwada³, Shota Nakamura², Naohisa Goto³, Rika Nishikiori⁴, Kousuke Okamoto¹, Masanori Kameoka², Teruo Yasunaga^{2,3}, Masaya Kawase^{2,4}, Kazuyoshi Ikuta^{2,5}, Tatsuya Takagi^{1,2,3}
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67. Synthesis of Structural Analogues of dUY11, a Potent Rigid Amphipathic Fusion Inhibitor Nucleoside
Stanislav Khrumyshev, Olga Valueva, Vladimir Korshun, Alexey Ustinov
Shamyakin-Ovchinnikov Institute of Bioorganic Chemistry RAS, Moscow, Russia
68. Chemically Synthesized Tunicamycin Derivatives Effectively Inhibit the Propagation of Classical Swine Fever Virus—A Surrogate Model for Hepatitis C Virus
Ewelina Krol¹, Boguslaw Szewczyk¹, Ilona Wandzik², Grzegorz Gryniewicz³, Wieslaw Szeja²
¹Department of Molecular Virology, University of Gdańsk, Gdańsk, Poland; ²Silesian Technical University, Gliwice, Poland; ³Pharmaceutical Institute, Warsaw, Poland
69. QSAR Analysis of Cytotoxicity in HeLa Cells
V. Kuz'min¹, A. Artemenko¹, E. Muratov¹, E. Varlamova¹, V. Makarov², O. Riabova², P. Wutzler³, M. Schmidtke³
¹A.V. Bogatsky Physical-Chemical Institute, Odessa, Ukraine; ²Research Center for Antibiotics, Moscow, Russia; ³Institute of Virology and Antiviral Therapy, Friedrich Schiller University, Jena, Germany
70. Peptide-based Entry Inhibitors for Paramyxoviruses
Christopher LeBlanc¹, Russell Wilson², Peter Kulkosky², Robert Garry¹, Thomas Voss¹
¹Tulane School of Medicine, New Orleans, LA, USA; ²Autoimmune Technologies, LLC, New Orleans, LA, USA
71. Antiviral Effect of Ingenol and Gingerol During HIV-1 Replication in MT4 Human T Lymphocytes
Hak Sung Lee, Sung-Soon Kim, Gab Jung Kim, Joo-Shil Lee, Eun-Jin Kim, Kee-Jong Hong
Korea Institute of Health, Seoul, Republic of Korea
72. Cystatin B Associates with STAT-1 in Monocyte Derived Macrophages and Placental Macrophages: A Possible Link to HIV Activation
Claribel Luciano-Montalvo, Loyda Melendez-Guerrero
University of Puerto Rico, Medical Sciences Campus, San Juan, PR, USA
73. Use of AX-4 Cells for the Study of the Pharmacodynamics of Oseltamivir Carboxylate for Influenza Viruses in an *In Vitro* Hollow Fiber Infection Model System
James McSharry, Qingmei Weng, Kate Soldani, Kris Zager, George Drusano
Orddway Research Institute, Albany, NY, USA
74. Sub-optimal Protease Inhibition of HIV-1: Effects on Virion Morphogenesis and RNA Maturation
Michael D. Moore¹, William Fu², Roger G. Ptak², Wei-Shau Hu¹
¹HIV Drug Resistance Program, National Cancer Institute at Frederick, Frederick, MD, USA; ²Southern Research Institute, Frederick, MD, USA
75. Significance of 3 β -dehydroxysterol-D24-reductase (DHCR24) in life cycle of Hepatitis C virus
Tomohiro Nishimura¹, Masaaki Sato¹, Makoto Saito¹, Yuri Kasama¹, Michinori Kohara², Kyoko Kohara¹
¹Kumamoto University, Kumamoto, Japan; ²RRINSHOKEN, Tokyo, Japan
76. Inhibition of Human T-Cell Lymphotropic Virus Type-1 Integrase by Dicafeoylquinic Acids Extracted from Coffee (*Coffea arabica*) Seeds
Ordóñez Paula¹, Panay Joel¹, Cuesta-Astroz Yesid¹, Ceballos Carolina¹, Ceron Flavio¹, Moncayo Alejandro², Dominguez Martha C.¹, Sanchez Adalberto¹, Lareo Leonardo³, Garcia-Vallejo Felipe¹
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77. Serine Side-Chain-linked Peptidomimetic Prodrugs of Cidofovir and Cyclic Cidofovir: C-Ester Effects on Transport and Activation
Larry W. Peterson¹, Boris A. Kashemirov¹, Ulrika Eriksson³, Jae-Seung Kim², Stefanie Mitchell², Paul Kijek², Kyung-Dall Lee³, John M. Hilfinger², Charles E. McKenna¹
¹Department of Chemistry, University of Southern California, Los Angeles, CA, USA; ²TSRL, Inc., Ann Arbor, MI, USA; ³Department of Pharmaceutical Sciences, University of Michigan, Ann Arbor, MI, USA
78. Check of Antiviral Activity of Nanocomposites With Active Check of Antiviral Activity of Drugs Based on Nanocomposites, Which Contained Oligonucleotides for Direct Splitting Viral Genome of Influenza Virus Type A
Dmitriy Pletnev¹, Aleksei Evdokimov¹, Evgeniy Belanov¹, Ernst Malygin¹, Sergey Balachnin¹, Olga Serova¹, Viktor Zinoviev¹, Valentina Zarytova², Asya Levina², Marina Repkova², Zinifer Ismagilov³, Nadezda Shikina³, Stanislav Zagrebelnyi⁴, Sergey Baiborodin⁵
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79. NAC Reduces Apoptosis and Telomeres Shortening Subsequent to HIV-1 Exposure in an Astrocytoma Cell Line
Michela Pollicita¹, Carolina Muscoli², Antonella Sgura³, Alberto Biasin³, Vincenzo Mollace², Caterina Tanzarella³, Claudio Del Duca⁴, Paola Rodino⁵, Carlo Federico Perno¹, Stefano Aquaro^{1,6}
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80. A Novel NNRTI Class with Potent Anti-HIV Activity Against NNRTI-resistant Viruses
Anneke Raney, Robert Hamatake, Wen Xu, Jean-Luc Girardet, Jean-Michel Vernier, Li-Tain Yeh, Barry Quart
Ardea Biosciences, Inc., Carlsbad, CA, USA
81. A Recombinant, Infectious Human Parainfluenza Virus Type 3 Expressing the Enhanced Green Fluorescent Protein for Use in High Throughput Antiviral Assays
Jason Roth, Donald F. Smee, Dale L. Barnard
Utah State University, Logan, USA
82. NGO Analysis of Impact of HIV Infection and Antiretroviral Therapies in Resource Poor Nations. Are We on Right Path to Control HIV?
Pramod Sankapal¹, Vaishali Sankapal², Nirmal Rawandale³
¹Health Alert Organization of India, [NGO], Dhule, India; ²Health Alert Organization of India, [NGO], Dhule, India; ³Health Alert Organization of India, [NGO], Dhule, India
83. A Cell-based High-throughput Screening Approach for the Discovery of New Inhibitors of the Influenza H5N1 Virus
William Severson, Joseph Maddry, Xi Chen, Subramaniam Ananthan, Adrian Poffenberger, Lynn Rasumussen, Melinda Sosa, Lucile White, Diana Noah, Gary Piazza
Southern Research Molecular Libraries Screening Center, Birmingham, AL, USA
84. Influence of Hsp70 on HIV-1 Infection
Ryuichi Sugiyama¹, Yuichiro Habu², Haruki Naganuma¹, Hiroshi Takaku^{1,3}
¹Department of Life and Environmental Science, Chiba Institute of Technology, Chiba, Japan; ²Japanese Foundation for AIDS Prevention, Tokyo, Japan; ³High Technology Research Center, Chiba Institute of Technology, Chiba, Japan
85. Suppression of HCV RNA Replication by Baculovirus-mediated shRNA Expression Vectors
Hitoshi Suzuki¹, Nobushige Tamai¹, Kunitada Shimotohno³, Yoshiharu Matsuura⁴, Hiroshi Takaku^{1,2}
¹Department of Life and Environmental Sciences, Chiba Institute of Technology, Narashino, Japan; ²High Technology Research Center, Chiba Institute of Technology, Narashino, Japan; ³Research Institute, Chiba Institute of Technology, Narashino, Japan; ⁴Research Center for Emerging Infectious Diseases, Research Institute for Microbial Diseases, Osaka University, Suita, Japan
86. Synthesis and Evaluation of Octadecyloxyethyl Esters of Five 3-Hydroxy-2-(Phosphonomethoxy)Propyl Nucleoside Phosphonates in HIV-1 Infected Cells
Nadejda Valiaeva^{1,2}, Kathy A. Aldern^{1,2}, Julissa Trahan^{1,2}, James R. Beadle^{1,2}, Karl Y. Hostetler^{1,2}
¹Division of Infectious Disease, University of California, San Diego, La Jolla, CA, USA; ²The Veterans Medical Research Foundation, San Diego, CA, USA
87. Dysregulation of the Antioxidant Enzyme Defense in Hispanic Women with HIV-associated Neurocognitive Disorder
Ixane Velazquez¹, Marines Plaud¹, Juliana Perez-Laspiur¹, Richard Skolasky², Valerie Wojna¹, Loyda Melendez¹
¹UPR-Medical Sciences Campus, San Juan, PR, USA; ²The John Hopkins University, Baltimore, MD, USA
88. Characterization of Small Molecule Inhibitors of West Nile Virus NS3 Serine Protease
Prasanth Viswanathan¹, Niklaus Mueller¹, Nagarajan Pattabiraman², Kyungae Lee³, Gregory Cuny^{3,4}, Ratre Takhampunya¹, Camilo Ansarah-Sabrino⁵, Theodore Pierson⁵, R. Padmanabhan¹
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89. From RT Inhibitor to RT/IN Dual Inhibitor: An Rational Design
Zhengqiang Wang, Robert Vince
Center for Drug Design, University of Minnesota, Minneapolis, MN, USA

90. Withdrawn
91. Check of Antiviral Activity of Nanocomposites with Active Ligand Based on Model of Cattle's Diarrhea Virus (Model of Hepatitis C Virus)
Viktor Zinoviev¹, Aleksey Evdokimov¹, Evgeniy Belanov¹, Ernst Malygin¹, Sergey Balachnin¹, Olga Serova¹, Dmitriy Pletnev¹, Valentina Zarytova², Asya Levina², Marina Repkova², Zinifer Ismagilov³, Nadezda Shikina³, Stanislav Zagrebelnyi⁴, Sergey Baiborodin⁵
¹FSRS SRC VB "Vector", Novosibirsk, Russia; ²Institute of Biochemistry and Fundamental Medicine SB RAS, Novosibirsk, Russia; ³Institute of Catalysis SB RAN, Novosibirsk, Russia; ⁴Novosibirsk State University, Novosibirsk, Russia; ⁵Institute of Cytology SB RAN, Novosibirsk, Russia
92. MIV-170, a Novel NNRTI with Potent Activity Against HIV and HIV Mutants
Bo Öberg, Britt Louise Sahlberg, Christer Sahlberg, Bertil Samuelsson, Kristina Wikström, Lotta Vrang, Hong Zhang
Medivir AB, Huddinge, Sweden

Tuesday, April 15, 2008

Poster Session II: Herpesviruses, Topical Microbicides, Poxviruses, Other Antiviral Agents, Medicinal Chemistry, and Animal Models,

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93. Design and Synthesis of Novel Non-Nucleoside Anti-HCMV Agents
R. Adak¹, C. McGuigan¹, R. Snoeck², G. Andrei², J. Balzarini², E. Gorovits³, C. Chang³, B. Ames³, Y. Liu³, J. Vernachio³
¹Cardiff University, Cardiff, United Kingdom; ²Rega Institute for Medical Research, Leuven, Belgium; ³Inhibitex Inc., Alpharetta, GA, USA
94. Susceptibility of Human Cytomegalovirus (HCMV) Drug-resistant Viruses to a New Class of Acyclic Nucleoside Phosphonate Analogues (ANPs)
Graciela Andrei¹, Pierre Fiten¹, Marcela Krecmerova², Antonín Holy², Erik De Clercq¹, Ghislain Opendakker¹, Robert Snoeck¹
¹Rega Institute, Leuven, Belgium; ²Gilead Sciences & IOCB Research Center, Academy of Sciences of the Czech Republic, Prague, Dominican Republic
95. Inhibition of HIV-1 Infection in Hu-PBL-SCID Reconstituted Mice by Rapamycin
Stefano Aquaro^{1,3}, Caterina Lapenta², Filippo Belardelli², Carlo-Federico Perno³, Ferdinando Nicoletti⁴
¹Department of Pharmaco-Biology, University of Calabria, Rende (CS), Italy; ²Department of Cell Biology and Neurosciences, Istituto Superiore di Sanità, Roma, Italy; ³Department of Cell Biology and Neurosciences, Istituto Superiore di Sanità, Roma, Italy; ⁴Department of Experimental Medicine and Biochemical Sciences, University of Rome Tor Vergata, Roma, Italy; ⁵Department of Biomedical Sciences, University of Catania, Catania, Italy
96. QSAR Analysis of Influence of Artificial Ribonucleases Structure on Their Anti-Influenza Activity
A. Artemenko¹, V. Kuz'min¹, E. Muratov¹, M. Kulinskiy¹, V. Lozitsky², A. Fedchuk², T. Gridina², L. Koroleva³, V. Silnikov³
¹A.V. Bogatsky Physical-Chemical Institute, Odessa, Ukraine; ²Ukrainian Mechnikov Research Anti-Plague Institute, Odessa, Ukraine; ³Institute of Chemical Biology and Fundamental Medicine, Novosibirsk, Russia
97. Anti-Orthopoxviral Activity of the 2-Cycloalkylimino-5-(4-Nitrophenyl)-1,3,4-Thiadiazine Derivatives
Evgeny Belanov¹, Lyudmila Sidorova², Vladimir Rusinov², Nikolay Bormotov¹, Sergey Balachnin¹, Olga Serova¹, Valery Charushin², Oleg Chupakhin²
¹SRC VB, Koltsovo, Novosibirsk reg., 630559, Russia; ²Ural State Technical University, Yekaterinburg 620002, Russia
98. Resistance of Human Cytomegalovirus to Cyclopropavir Involves a Novel Mutation in UL97
Katherine Z. Borysko¹, Brian G. Gentry¹, Julie M. Breitenbach¹, Jiri Zemlicka², John C. Drach¹
¹Department of Biologic & Materials Sciences, School of Dentistry, University of Michigan, Ann Arbor, MI, USA; ²Karmanos Cancer Institute, Wayne State University School of Medicine, Detroit, MI, USA
99. Synthesis and Activity of Vidarabine D-Amino Acid Prodrugs as Potential Pox Virus Agents
Julie M. Breitenbach¹, Wei Shen², John Hilfinger², John C. Drach¹
¹Department Biologic & Materials Sciences, University of Michigan, Ann Arbor, MI, USA; ²TSRL, Inc., Ann Arbor, MI, USA
100. Antiviral Activity of (–)-D-Carboacyclic Cytosine (Carbodine) Against Avian Influenza Virus (H5N1)
C.K. Chu^{1,3}, J. Rao^{1,3}, C.W. Day^{2,3}, D.L. Barnard^{2,3}, D.F. Smee^{2,3}
¹University of Georgia, Athens, GA, USA; ²University of Georgia, Athens, GA, USA; ³Utah State University, Logan, UT, USA
101. Application of the Phosphoramidate Protide Approach to the Antiviral Drug Ribavirin
Marco Derudas¹, Christopher McGuigan¹, Andrea Brancalè¹, Johan Neyts², Jan Balzarini²
¹Welsh School of Pharmacy, Cardiff University, Cardiff, United Kingdom; ²Rega Institute for Medical Research, Leuven, Belgium
102. Design, Synthesis and Biological Evaluation of Novel Acyclovir Protides
Marco Derudas¹, Christopher McGuigan¹, Andrea Brancalè¹, Joachim Bugert², Graciela Andrei³, Robert Snoeck³, Jan Balzarini³
¹Welsh School of Pharmacy, Cardiff University, Cardiff, United Kingdom; ²School of Medicine, Department of Medical Microbiology, Cardiff University, Cardiff, United Kingdom; ³Rega Institute for Medical Research, Leuven, Belgium
103. Vidarabine Prodrugs as Potential Inhibitors of Adenosine Deaminase
Brian G. Gentry¹, Wei Shen², Julie M. Breitenbach¹, John Hilfinger², John C. Drach¹
¹Department Biologic & Materials Sciences, University of Michigan, Ann Arbor, MI, USA; ²TSRL, Inc., Ann Arbor, MI, USA
104. Megaribavirin Aerosol for the Treatment of Influenza A Virus Infections in Mice
Brian Gilbert¹, Matthew McLeay²
¹Baylor College of Medicine, Houston, TX, USA; ²MTM Research, LLC, Omaha, NE, USA
105. Therapy of Advanced Arenaviral Infection in Hamsters with T-705
Brian Gowen¹, Min-Hui Wong¹, Kie-Hoon Jung¹, Kevin Bailey¹, Yousuke Furuta², John Morrey¹
¹Institute for Antiviral Research, Utah State University, Logan, UT, USA; ²Research Laboratories. Toyama Chemical Company Ltd., Toyama, Japan

106. Virucidal Activity of Extracts From Four Algae Species Against Herpes Simplex Virus
Emma Harden¹, Carroll Hartline¹, Ruth Falshaw², Susan Carnachan², Earl Kern¹, Mark Prichard¹
¹University of Alabama at Birmingham, Birmingham, AL, USA; ²Industrial Research Ltd., Lower Hutt, New Zealand
107. Luciferase-based Assay for Rapid Screening of Antivirals Against Human Cytomegalovirus
Carroll Hartline, Earl Kern, Mark Prichard
University of Alabama at Birmingham, Birmingham, AL, USA
108. Carbocyclic L-Nucleoside Analogues as Potential Antiviral Agents
Soenke Jessel, Chris Meier
Institute of Organic Chemistry, Department of Chemistry, Faculty of Science, University of Hamburg, Martin-Luther-King-Platz 6, D-20146 Hamburg, Germany
109. Immunoprophylaxis of Phleboviral Infection in Hamsters with Recombinant Eimeria Protozoan Surface Antigen
Kie-Hoon Jung¹, John W. Judge², Min-Hui Wong¹, Peter C. Melby³, Barnett Rosenberg², John D. Morrey¹, Brian B. Gowen¹
¹Institute for Antiviral Research, Utah State University, Logan, UT, USA; ²Barros Research Institute, Holt, MI, USA; ³Research Service, South Texas Veterans Health Care System and Department of Medicine, University of Texas Health Science Center, San Antonio, TX, USA
110. Novel Inhibitors of Orthopoxvirus Replication Target Vaccinia Virus P37 Envelope Protein
Kathy A. Keith, Debra C. Quenelle, Shalisa Sanders, Robin C. Conley, Earl R. Kern, Mark N. Prichard
Department of Pediatrics, University of Alabama School of Medicine, Birmingham, AL, USA
111. Synthesis and Antiviral Activity of Various N4-Acyl Derivatives of Cidofovir and its 5-Azacytosine Counterpart, 1-(S)-[3-Hydroxy-2-(Phosphonomethoxy)Propyl]-5-Azacytosine
Marcela Krecmerova¹, Antonin Holy¹, Graciela Andrei², Lieve Naesens², Johan Neyts², Jan Balzarini², Erik De Clercq², Robert Snoeck²
¹Gilead Sciences & IOCB Research Centre, Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic, v.v.i., Prague, Czech Republic; ²Rega Institute for Medical Research, Katholieke Universiteit Leuven, Leuven, Belgium
112. Antiviral Effects of Sulfated Exopolysaccharide From the Marine Microalga Gyrodinium Impudicum Strain KG03
Chong-Kyo Lee¹, Hae Soo Kim¹, Ju Ryung Nam¹, Myung-Jin Lee¹, Joung-Han Yim², Hong Kum Lee²
¹Pharmacology Res, Ctr, Korea Research Institute of Chemical Technology, Daejeon, Republic of Korea; ²Polar Biocenter, Korea Polar Research Institute, Incheon, Republic of Korea
113. Developing a Novel High-Throughput Screening Assay Against Bluetongue Virus
Qianjun Li, Lynn Rasmussen, Clinton Maddox, E. Lucile
White Southern Research Institute, Birmingham, AL, USA
114. Antioxidant Properties of Oseltamivir—A Specific Na Inhibitor of Influenza Virus Infection Type A in Influenza Virus Infected Mice and in Some Model Systems
Milka Mileva¹, Angel S. Galabov², Lora Simeonova², Galina Gegova²
¹Department of Medical Physics and Biophysics, Medical University, Sofia, Bulgaria; ²Department of Virology, Institute of Microbiology, Bulgarian Academy of Sciences, Sofia, Bulgaria
115. Hit QSAR Analysis of Anti-Coxsackievirus B3 Activity of [(Biphenyloxy)Propyl]Isoxazole Derivatives
E. Muratov¹, V. Kuz'min¹, A. Artemenko¹, E. Varlamova¹, V. Makarov², O. Riabova², P. Wutzler³, M. Schmidtke³
¹A.V. Bogatsky Physical-Chemical Institute, Odessa, Ukraine; ²Research Center for Antibiotics, Moscow, Russia; ³Institute of Virology and Antiviral Therapy, F. Schiller University, Jena, Germany
116. Studying of Anti-Epstein-Barr Virus Activity of Amizon and their Derivative
Nadiya Nesterova¹, Svitlana Zagorodnya¹, Valentina Danilenko², Galina Baranova¹, Anna Golovan¹
¹Institute of Microbiology and Virology, Kyiv, Ukraine; ²Institute of Pharmacology and Toxicology, Kyiv, Ukraine
117. Development of Resistance to Oxoglaucine in Poliovirus Type 1 (LSc-2ab) and the Six Coxsackie B Viruses
Lubomira Nikolaeva-Glomb, Angel S. Galabov
The Stephan Angeloff Institute of Microbiology, Bulgarian Academy of Sciences, Sofia, Bulgaria
118. Efficacy of Therapeutic Intervention with an Oral Ether Lipid Analogue of Cidofovir (CMX001) in a Lethal Mousepox Model
Scott Parker, Christina Oberle, Erin Touchette, R. Mark Buller
Saint Louis University Medical School, St. Louis, MO, USA
119. Synthesis of P-O-C-linked Foscarinet-Peptide Conjugates and Sensitive Methods to Detect the Released Drug in Biological Samples
Chi V. Pham¹, Boris A. Kashemirov¹, Jorge Osuna¹, Kanokkarn Saejueng¹, John M. Hilfinger², Charles E. McKenna¹
¹Department of Chemistry, University of Southern California, Los Angeles, CA, USA; ²TSRL, Inc., Ann Arbor, MI, USA
120. *In Vivo* Efficacy of CMX001 Against Herpes Simplex Virus Types 1 and 2
Debra Quenelle¹, Deborah Collins¹, Terri Rice¹, George Painter², Alice Robertson², Earl Kern¹
¹The University of Alabama, School of Medicine, Birmingham, AL, USA; ²Chimerix, Inc., Durham, NC, USA
121. A Synthetic Strategy to Different Cyclopentenyl-Nucleosides
Bastian Reichardt, Chris Meier
Institute of Organic Chemistry, Department of Chemistry, Faculty of Science, University of Hamburg, Martin-Luther-King-Platz 6, D-20146 Hamburg, Germany

122. Cyclopentenylcytosine (CPE-C) Inhibits Adenovirus Replication in the Ad5/NZW Rabbit Ocular Model
Eric G. Romanowski, Kathleen A. Yates, Y. Jerold Gordon
The Charles T. Campbell Laboratory, University of Pittsburgh, Pittsburgh, PA, USA
123. Synthesis and Properties of Glycosyl-Functionalised Cyclosal-Pronucleotides
Tilman Schulz¹, Jan Balzarini², Chris Meier¹
¹Institute of Organic Chemistry, Department of Chemistry, Faculty of Science, University of Hamburg, Martin-Luther-King-Platz 6, D-20146 Hamburg, Germany; ²Rega Institute for Medical Research, Katholieke Universiteit Leuven, Minderbroederstraat 10, B-3000 Leuven, Belgium
124. Synthesis, Antiviral and Cytotoxic Activities of Some Novel 2, 3-Disubstituted Quinazolin-4(3H)-Ones
Periyasamy Selvam¹, Padamraj Rathore¹, P. Babu¹, Leentje Persoons², Erik De Clercq²
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125. Combined Anti-Influenza Virus Effects of a Plant Polyphenol-rich Extract and *E*-Aminocaproic Acid *In Vitro* and *In Vivo*
Julia Serkedjieva, Ani Teodosieva
Institute of Microbiology, Bulgarian Academy of Sciences, Sofia, Bulgaria
126. Differential Pathogenesis of Cowpox Virus Intranasal Infections in Mice Induced by Low and High Inoculum Volumes, and Effects of Cidofovir Treatment
Donald F. Smee¹, Brian B. Gowen¹, Miles K. Wandersee¹, Min-Hui Wong¹, Ramona T. Skirpstunas², Thomas J. Baldwin², Justin D. Hoopes², Robert W. Sidwell¹
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127. Herpes Simplex Virus Type 2 Exposed to Rigid Amphipathic Fusion Inhibitors (RAFIs) are not Infectious in a Mouse Vaginal Model
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128. Evaluation of C-5 Substituted Uracil Acyclic Phosphonates as Substrates or Inhibitors for DTMP and UMP-CMP Kinases and Potential Antipox Derivatives
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129. Effects of PTU-23, HBB, Ribavirin and Oxoglaucine on the Replication of Feline Calicivirus in CrFK Cells
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130. Increase of the Effect of Anti-Enteroviral Chemotherapy Used in Experimental Neurotropic Coxsackievirus B1 Infection in Newborn Mice When a Triple Combination of Antivirals is Administered in a Consecutive Treatment Course
Ralitsa Vassileva-Pencheva, Angel S. Galabov
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131. Prodrugs of Antiviral Nucleosides Cleavable by Dipeptidyl-Peptidase-IV (CD26)
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132. Biochemical Evaluation of a New Potential Antiviral Drug HPMP-5-Azacytosine
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133. A Microbicide Transmission and Sterilization Assay (MTSA) Defines the Effective Concentration of Topical HIV Microbicides Required to Suppress Virus Transmission
Karen M. Watson, Christa E. Buckheit, Robert W. Buckheit Jr.
ImQuest BioSciences, Inc., Frederick, MD, USA
134. Stereospecificity, Substrate, and Inhibitory Properties of P-Borano Nucleoside Diphosphates for Creatine, Pyruvate, and NDP Kinases
Charlotta Wennefors, Mikhail Dobrikov, Barbara-Ramsay Shaw
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135. Withdrawn
136. Ring-expanded Nucleosides (RENs) Exhibit Potent ATP-dependent Helicase Activity of RNA Helicase Ddx3 with Little or no Toxicity in *Ex Vivo* Cell Culture or *In Vivo* in Mice
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