Scientific Program

MONDAY

April 11

Oral Session I: Auditorium, Hilton Conference Center

Design of Antiviral Agents

Co-chairmen: *J.A. Secrist and J.L. Imbach*

8:00 Welcome – *George J. Galasso*

8:15 Protein Crystallography Applied to Antiviral Drug Development
Michael Rossman. Purdue University School of Medicine, U.S.A.

9:00 Development and Targeting of Nucleoside Analogs for Antiviral Therapeutics
John A. Montgomery. Southern Research Institute, U.S.A.

9:45 Break

10:15 Antiviral Activity of Acyclic Tubercidin Analogs. *J.C. Drach, R.N. Nassiri, S.R. Turk, G.R. Birch, L.A. Coleman, C. Shipman, Jr., J.S. Pudlo and L.B. Townsend. The University of Michigan, U.S.A.*

10:30 (S)-9-(3-Hydroxy-2-phosphonylmethoxypropyl)adenine (S-HPMPA): Antiviral Activity and Pharmacokinetics. *M.J.M. Hitchcock, I. Ghazzouli, Y.H. Tsai, C.A.Bartelli, R.R. Webb and J.C. Martin. Bristol-Myers Co., U.S.A.*

10:45 Effect of Ribavirin on Hepatitis A Virus Replication In Vitro. *R.K. Chaudhary and A.P. Andonov. Laboratory Centre for Disease Control. Canada.*

11:00 Studies on Two New Antiviral Agents Against Guinea Pig Lymphotropic Herpesvirus Infection In vitro. *J.M. Hu and G.D. Hsiung. Yale University School of Medicine, and VA Medical Center, West Haven, U.S.A.*

11:15 Activity of 5-Bromovinyl-2'-deoxycytidine in Combination with Deaminase Inhibitors Against Herpes Simplex Virus Type 1. *P.J. Aduma, S.V. Gupta and E. De Clercq. University of Saskatchewan, Canada and Rega Institute, Belgium.*

11:30 Inhibitors of Herpes Simplex Virus Thymidine Kinase Synthesis and Biological Properties. *J.A. Martin, I.B. Duncan. M.J. Hall, R.W. Lambert, G.J. Thomas and P.W. Kai. Roche Products Limited, U.K.*

11:45 Inhibition of HIV-1 and Simian Immunodeficiency Virus (SIV) Reverse Transcriptases by the 5'-Triphosphates of 3'-Azido-2',3'-dideoxyuridine (CS-87), 3'-Azido-3'-deoxythymidine (AZT), and 3'-Azido-2',3'-dideoxy-5-ethyluridine (CS-85). *B.F.H. Eriksson, R.F. Schinazi and C.K. Chu. Veterans Administration Medical Center, Emory University School of Medicine and University of Georgia, U.S.A.*

12:00 Lunch

Oral Session II: Auditorium

Preclinical Pharmacology and Evaluation of Antiviral Agents

Co-chairmen: *C.A. Laughlin and H. Schellekens*

1:00 The Application of Molecular Pharmacology to Antiviral Drug Development
William H. Prusoff. Yale University School of Medicine, U.S.A.

1:45 Overview: Utilization of Animal Models for Antiviral Drug Development
Hugh J. Field. Cambridge University School of Veterinary Medicine, U.K.

2:30 Break

3:00 Anti-Viral Therapy in Woodchucks During the Late Acute Phase of Woodchuck Hepatitis Virus (WHV) Infection. *P.J. Cote, B.E. Korba, B.Tennant, B. Baldwin, R.H. Purcell and J.L. Gerin. Division of Molecular Virology and Immunology, Cornell Veterinary School and Laboratory of Viral Diseases, U.S.A.*

3:15 3'Azidothymidine (AZT) Prevents the Dissemination of Retrovirus in LP-BM5 MuLV-infected C57BL/6 Mice. *J.A. Bilello, C. MacAuley, S. Forman, J.L. Eiseman and R.A. Yetter. VA Medical Center and University of Maryland Cancer Center, U.S.A.*

3:30 Treatment of Feline Leukemia Virus Induced Immunodeficiency Syndrome with Sustained Release Implantation of 2,3 Dideoxycytidine. *N.S. Zeidner, E.A. Hoover, J. Strobel, J. Kalin and D. Hill. Colorado State University and Southern Research Institute, U.S.A.*

3:45 Comparative Antiviral Activities of BV-araU and Acyclovir In Vitro and In Vivo. *H. Machida. Yamasa Shoyu Co., Ltd., Japan.*

4:00 Inhibition of In Vivo Herpes Simplex Virus Reactivation by Acyclovir. *R.B. Tenser and W.A. Edris. Penn State University College of Medicine, U.S.A.*

4:15 Mechanisms of the Augmented Resistance of Trehalose-6,6'-dimycolate (TDM)-Treated Mice to Influenza Virus Infection. *M. Azuma, K. Sazaki, T. Suzutani, T. Sakuma and I. Yoshida. Asahikawa Medical College, Japan.*

4:30 Efficacy of a Novel Orally Active Immunomodulator, S-26308 Against Arbovirus Infections. *M. Kende, W.L. Rill, M.J. Contos and P.G. Canonico. USAMRIID, U.S.A.*

4:45 Beijing duck Hepatitis Used as an Animal Model for Screening and Evaluating Antihepatitis B Virus Drugs. *H.-S. Chen, Z. Li, W.-G. Yang, J.-T. Gao, C. Liu and H.-Y. Qian. Chinese Academy of Medical Sciences, China.*

5:00 **Poster Session I**: Hilton Conference Center

Antiviral Agent Targeting, Synthesis and In Vitro Testing

I - 1 Specificity of Viral Proteases: Target for Therapy of Infectious Diseases. *B.D. Korant. DuPont Experimental Station, U.S.A.*

I - 2 The Adenovirus 2 Encoded Proteinase - A Model for Development of Viral Proteinase-Specific Antiviral Agents. *C.W. Anderson, J. LaRocca, A. Ostermeyer and W. Mangel. Brookhaven National Laboratory, U.S.A.*

I - 3 Purification of a Human Protein Related to the Anti-Influenza Protein Mx of Mice. *G. Weitz and H. Arnheiter. NINCDS, NIH, U.S.A.*

I - 4 Cloning and Expression of the Herpes Simplex Virus Type 1 DNA Polymerase in Bacteria. *D.I. Dorsky and C.S. Crumpacker. Beth Israel Hospital and Harvard Medical School, U.S.A.*

I - 5 Inhibition of Calf Thymus DNA Topoisomerase I-Mediated Relaxation of Supercoiled DNA by 2',5'-Oligoadenylates. *P.F. Torrence, K. Lesiak and F.J. Castora. NIDDK, NIH, and University of Maryland, U.S.A.*

I - 6 In Vitro Antiviral Activity Studies of Poly r(A-U) and Intercalating Agents. *C.-C. Tsai, J.M. Jamison, D.G. Flowers and S. Kitareewan. Kent State University and Northeastern Ohio Universities College of Medicine, U.S.A.*

I - 7 Computer Assisted Molecular Design of Antisense Oligonucleotide-Intercalator Conjugates as Antiviral Agents. *H.L. Weith, S.R. Byrn, M.S. Cushman, J. Stowell, B. Tobias and D. Carlson. Purdue University, U.S.A.*

I - 8 Activation of RNase L by Phosphorothioate Analogs of 2-5A Trimer and Tetramer Cores. *R.J. Suhadolnik, K. Kariko, S.W. Li, R.W. Sobol, Jr., N.L. Reichenbach, W. Pfleiderer and R. Charubala. Temple University School of Medicine, U.S.A. and Universität Konstanz, F.R.G.*

I - 9 Chemical Synthesis of Phosphorothioate Analogs of 2-5A Trimer and Tetramer. *W. Pfleiderer and R. Charubala. Universität Konstanz, F.R.G.*

I - 10 Inhibition of Phosphorylation and Viral Protein Kinase Activity by D609 (tricyclodecan-9-yl-xanthogenate). *D.G. Walro and K.S. Rosenthal. Northeastern Ohio Universities College of Medicine, U.S.A.*

I - 11 The Antiviral Properties of Adenosine Analogues are Correlated with the Inhibition of S-Adenosylhomocysteine Hydrolase. *M.Cools and E. De Clercq. Rega Institute for Medical Research, Belgium.*

I - 12 Elucidation of the Mechanism Responsible for the Synergistic Effects of DL-Homocysteine (Hcy) on the Anti-Vaccinia Virus Effects of the S-Adenosylhomocysteine (AdoHcy) Hydrolase Inhibitor 9-(Trans-2', Trans-3'-Dihydroxycyclopent-4'-Enyl)-Adenine (1). *M. Hasobe, J.G. McKee, H. Ishii and R.T. Borchardt. University of Kansas, U.S.A.*

I - 13 The Comparative Antiviral Action of Ribavirin Against Selected Bunyaviruses. *J.J. Kirsi and P.G. Canonico. USAMRIID, U.S.A.*

I - 14 Anti-RNA-Viral Activities of Phenanthridones Related to Narciclasine. *B. Gabrielsen, M.A. Ussery, P.G. Canonico, G.R. Pettit, E.M. Schubert and R.W. Sidwell. USAMRIID, Arizona State University, Pharm-Eco Laboratories and Utah State University, U.S.A.*

I - 15 Effects and Mode of Action of Ribavirin Analog N3844 Against Semliki Forest Virus. *D.F. Smee, H.A. Alaghamandan, G.D. Kini, and R.K. Robins. Nucleic Acid Research Institute, U.S.A.*

I - 16 Enhancement of Alphavirus Replication in Cultured Cells by External Alkaline pH. *O.P. Zhirnov. The D.I. Ivanovsky Virology Institute, U.S.S.R.*

I - 17 Absence of Antiviral Activity of the Broad -Spectrum Picornavirus Inhibitor Disoxaril (WIN 51711) Against Hepatitis A Virus. *A. Widell. University of Lund, Sweden.*

I - 18 Inhibition of Human Hepatitis B Virus DNA Polymerase (HBV DNAP) and Duck Hepatitis B Virus DNA Polymerase (DHBV DNAP) by Triphosphates of Thymidine Analogs. *P.-Z. Tao, B. Löfgren, R. Datema and B. Oberg. Chinese Academy of Medical Sciences, China, University of Lund, Sweden and Astra Alab AB, Sweden.*

I - 19 The Effect of Ribavirin on Hepatitis B Virus Induced Suppression of Bone Marrow Progenitor Cells In Vitro. *H.N. Steinberg and J.B. Zeldis. Beth Israel Hospital and Harvard Medical School, U.S.A.*

I – 20 The Mechanism of Action of Antirhinoviral 9-Benzylpurines. *J.W.T. Selway and J.L. Kelley. Wellcome Research Laboratories, U.K. and Burroughs Wellcome Co., U.S.A.*

I – 21 3-Methylquercetin Prevents Synthesis of Negatively Stranded Viral RNA in Poliovirus Infected Cells. *D. Vanden Berghe, J.M. Lopez Pila and H. Kopecka. University of Antwerp, Belgium, Bundesgesundheitsamt, F.R.G. and Institut Pasteur, France.*

I – 22 In Vitro Antiviral Spectrum of LY253963. *J.D. Nelson, D.C. DeLong, J. Terry, J. Tang, B. Warren, E. Wu, D.W. White, C. Gale and W.A. Spitzer. Lilly Research Laboratories, U.S.A.*

I – 23 Influence of Ascorbate on the Antiviral Activity of Quercetin Derivatives. *R. Vrijsen, L. Everaert and A. Boeye. Vrije Universiteit Brussel, Belgium.*

I – 24 Antiviral Activity of Natural 3-Methoxyflavones. *L. Van Hoof, V. Robbrecht, D. Vanden Berghe, N. De Meyer, A. Haemers and A.J. Vlietinck. University of Antwerp, Belgium.*

I – 25 Antiviral Activity of Synthetic 3-Methoxyflavones. *D. Vanden Berghe, N. De Meyer, L. Van Hoof, H.R. Pandey, L. Mishra, A.J. Vlietinck and A. Haemers. University of Antwerp, Belgium.*

I – 26 Selective Inhibition of HIV-1 Envelope Glycoprotein-Induced Syncytium Formation. *R.J. Owens and R.W. Compans. University of Alabama at Birmingham, U.S.A.*

I – 27 Susceptibility of Human Immunodeficiency Virus Replication to Acyclic Adenosine Analogues, and Synergy in Combination with Azidothymidine. *M.S. Smith, E.L. Brian, E. De Clercq, and J.S. Pagano. University of North Carolina, U.S.A. and Rega Institute, Belgium.*

I – 28 Effect of Polyene Macrolide Antibiotics and Their Derivatives on Human Immunodeficiency Virus (HIV). *D. Pontani, D. Sun, S.I. Shahied, O. Plescia, C.P. Schaffner and P. Sarin. New Jersey State Department of Health, NIH and Rutgers University, U.S.A.*

I – 29 Inhibition Mechanisms of Antiretroviral Compounds. *K. Ono. Aichi Cancer Center Research Institute, Japan.*

I – 30 Inhibition of Human Immunodeficiency Virus Replication by Derivatives of Stearic Acid. *D. Kinchington, W. Barker, C. Wood, N.A. Habib, S. Galpin, D.J. Jeffries and K. Apostolov. St. Mary's Hospital Medical School, U.K.*

I – 31 Comparison of the Toxicity and Anti-Respiratory Syncytial Virus Activity of Papaverine and Pyrazofurin. *P.R. Wyde and B.E. Gilbert. Baylor College of Medicine, U.S.A.*

I - 32 Antiviral and Antibacterial Effect of Pyridopeptonal. *N. Atanassov, L. Nitcheva and V. Yonkova. Higher Institute of Medicine, Bulgaria.*

I - 33 Proteolytic Processing of Virus Proteins as a Target for Antiviral Chemotherapy. *O.P. Zhirnov. The D.I. Ivanovsky Virology Institute, U.S.S.R.*

I - 34 HPMPG: An Acyclic Guanosine Phosphonate Which Exhibits Broad Spectrum, Antiviral Activity. *B.J. Terry, K.E. Mazina, M.L. Haffey, A.V. Tuomari, A. Feldman, W. Slusarchyk, M.G. Young, R. Zahler and A.K. Field. Squibb Institute for Medical Research, U.S.A.*

I - 35 Studies on the Mode of Action of the New Antiviral Agent HPMPA using bovine herpesvirus-1. *H.J. Field and M.J. Allen. University of Cambridge, U.K.*

I - 36 Inhibition of Epstein-Barr Virus Transformation of B-cells by 3'-Azido-3'-deoxythymidine and Interferon Alpha and Gamma. *J.C. Lin, Z.X. Zhang, I. Sim and J.S. Pagano. University of North Carolina and Hoffmann LaRoche Inc., U.S.A.*

I - 37 The Folate Antagonist, Methotrexate, is a Potent Inhibitor of Murine and Human Cytomegalovirus in Vitro. *J.D. Shanley and R. Debs. University of Connecticut and University of California San Francisco, U.S.A.*

I - 38 Synthesis of HOE 602 and Analogues. New Acyclic Nucleoside Derivatives with Antiviral Activity. *G. Jähne, E. Winkelmann, Th. Hilpert, W. Hertzsch, M. Rösner, A. Sinharay, I. Winkler, M. Helsberg, Ch. Meichsner and H. Rolly. Hoechst AG, F.R.G.*

I - 39 Selective Inhibition of Human Cytomegalovirus Replication by Oxetanocin G. *Y. Nishiyama, N. Yamamoto, K. Takahashi and N. Shimada. Nagoya University School of Medicine and Nippon Kayaku Co. Ltd., Japan.*

I - 40 New Inhibitors of Polyamine (PA) Biosynthesis and Their Effect on the Replication of Human Cytomegalovirus (HCMV). *G. Arnett, L.M. Rose, E.L. White, W.B. Forrister, T.H. Moss III, R.W. Brockman, W.M. Shannon and J.A. Secrist III. Southern Research Institute, U.S.A.*

I - 41 Metabolism of BV-araU in HSV-Infected Cells. *H. Machida, Y. Watanabe, T. Suzutani and M. Azuma. Yamasa Shoyu Co. and Asahikawa Medical College, Japan.*

I - 42 Tromantadine Inhibits Herpes Simplex Virus Induced Syncytia. *D.E. Ickes, T.M. Venetta, K.S. Rosenthal. N.E. Ohio Universities College of Medicine, U.S.A.*

I - 43 Studies on the Mechanism of Antiviral Action of 5-(2-Chloroethyl)-2'-Deoxyuridine Against Herpes Simplex Virus. *R. Bernaerts, P. Sterkens, P. Herdewijn, B. Rosenwirth and E. De Clercq. Rega Institute, Belgium and Sandoz Forschungsinstitut, Austria.*

I - 44 In Vitro and In Vivo Antiherpes Activity of 4-0-Difluoromethyl-5-Substituted Uracil Nucleoside Analogs. *J. Reefschläger, C.-D. Pein, D. Cech and D.H. Krüger. Humboldt University, G.D.R.*

I - 45 Conformation and Antiherpes Activity of 3'- and 5'-Azido and Amino Analogs of 5-Methoxy-methyl-2'-deoxyuridine. *G. Tourigny, A.L. Stuart, I. Ekiel, P.J. Aduma and S.V. Gupta. University of Saskatchewan and National Research Council of Canada, Canada.*

I - 46 Inactivation of Enveloped Viruses in Human Serum and Infant Formula by Human Milk Lipids. *C.E. Isaacs, K.S. Kim, L.S. Martin and H. Thormar. New York State Institute Basic Research and CDC, U.S.A.*

I - 47 On the Antiviral Activity of a Polyphenolic Complex, Isolated From *Geranium Sanguineum L. J. Serkedjieva and N. Manolova. Bulgarian Academy of Science, Bulgaria.*

I - 48 Synthesis and Antiviral Activity of 2'-Deoxy-2',2'-Difluoro-D-Ribofuranosyl Pyrimidine Nucleosides. *J.S. Kroin, J. Tang, J.D. Nelson, D.C. Jones and L.W. Hertel. Eli Lilly and Company, U.S.A.*

I - 49 Determination of Antiviral Activity of Ganciclovir (DHPG) and Antiretroviral Agents Against Human Cytomegalovirus (HCMV) Using a Novel DNA-DNA Hybridization Assay. *W.M. Dankner and S.A. Spector. University of California, U.S.A.*

I - 50 Evaluation of Anti-varicella-zoster Virus Activity of Acyclovir by a Nucleic Acid Hybridization Assay. *L.R. Stanberry and M.G. Myers. University of Cincinnati College of Medicine, U.S.A.*

I - 51 Use of DNA Hybridization for Antiviral Susceptibility Testing. *M. Forman, J.D. Jollick, D. Scholl and P. Charache. Johns Hopkins Hospital and Diagnostic Hybrids Inc., U.S.A.*

I - 52 In Vitro and In Vivo Evaluations of Compounds Against Representative Viruses from Seven Virus Families. *L.E. Holland, G.A. Arnett, L.V. Brando, M.G. Hollingshead, L. Westbrook, G.J. Williams, W.M. Shannon, J.W. Huggins, M.A. Ussery and P.G. Canonico. Southern Research Institute and USAMRIID, U.S.A.*

I - 53 Establishment of Screening System for Antiviral Substances – on Hantaan Virus as Target. *P.-W. Lee. Medical College, Korea University, Korea.*

I - 54 A Rapid Screening Method for Anti-HIV Compounds. *S.A. Galpin, D.J. Jeffries and D. Kinchington. St. Mary's Hospital Medical School, U.K.*

I - 55 Differential Response of T-Lymphoblastoid Cell Lines to Infection with HIV and to Anti-Viral Drugs: Implications for Large-Scale Anti-HIV Drug Screening. *O. Weislow, R. Shoemaker, R. Kiser, D. Fine and M. Boyd. Program Resources, Inc. and Developmental Therapeutics Program, DCT, NCI-Frederick Cancer Research Facility, U.S.A.*

TUESDAY

April 12

Oral Session III: Auditorium

Antiviral Approaches to HIV Infection

Co-chairmen: *J.J. McGowan and K. Ono*

8:00 Molecular Targets for Inhibition of HIV Replication
Eric Hunter. University of Alabama at Birmingham, U.S.A.

8:45 Development of Nucleoside Analogs for Inhibition of HIV Replication
Erik De Clercq. Rega Institute, Belgium

9:30 Break

10:00 Clinical Trials for Therapy of HIV Infections
Douglas D. Richman. University of California at San Diego, U.S.A.

10:45 AIDS Encephalopathy: An AZT Derivative Which May Become 'Locked' in the Central Nervous System. *P.F. Torrence, J. Kinjo, K. Lesiak, J. Balzarini and E. De Clercq. NIDDK, NIH, U.S.A. and Rega Institute, Belgium.*

11:00 2′,3′-Dideoxy-2′,3′-didehydrothymidine (D4T): A Potent and Selective Agent Against Human Immunodeficiency Virus (HIV). *I. Ghazzouli, M. Hitchcock, V. Brankovan, J. Desiderio, J.-P. Sommadossi, M. August, T-S. Lin, W. Prusoff, M. Mansuri and J. Martin. Bristol-Myers Co., Oncogen, University of Alabama and Yale University, U.S.A.*

11:15 Synergistic Activity of 3′-Azido-3′-deoxythymidine (Zidovudine) and Phosphonoformate (Foscarnet) Against Human Immunodeficiency Virus Type 1 In Vitro. *R.F. Schinazi, B.F.H. Eriksson, B.H. Arnold and D.L. Cannon. Veterans Administration Medical Center and Emory University School of Medicine, U.S.A.*

11:30 3′-Fluoro- and 3′-Azido-Substituted Pyrimidine 2′,3′-Dideoxynucleoside Derivatives are Potent Anti-Retrovirus Agents. *J. Balzarini, M. Baba, R. Pauwels, P. Herdewijn and E. De Clercq. Rega Institute, Belgium.*

11:45 Potent and Selective Antiviral Activity of a New Nucleoside Analog (NSC-614846) Against Human Immunodeficiency Virus (HIV) In Vitro. *W.M. Shannon, R. Vince, M. Hua, J. Brownell, G .C. Lavelle, K.J. Qualls, O. Weislow, R. Kiser, R. Schultz, R.H. Shoemaker, J.G. Mayo, M.R. Boyd and P.G. Canonico. Southern Research Institute, University of Minnesota, Program Resources Inc. and NCI and USAMRIID, U.S.A.*

12:00 Business Meeting

Lunch, tours and recreation

WEDNESDAY

April 13

Oral Session IV: Auditorium

Enzymatic Targets and Clinical Trials

Co-chairmen: *C.A. Alford and G.B. Elion*

8:00 Viral Enzymes as Targets of Antiviral Drugs
Bo F. Oberg. Astra Alab AB, Sweden.

8:45 Therapeutic Trials of Drugs for Respiratory Infections
Robert B. Couch. Baylor College of Medicine, U.S.A.

9:30 Break

10:00 Therapy of Herpesvirus Infections
Lawrence Corey. University of Washington School of Medicine, U.S.A.

10:45 Prophylactic Therapy with Oral Acyclovir (ACV) for Experimental Ultraviolet (UV) Light-Induced Herpes Simplex Labialis. *S.L. Spruance, M.B. McKeough and G. Wenerstrom. University of Utah School of Medicine, U.S.A.*

11:00 Simplified Dosage Zidovudine Treatment of Asymptomatic HIV-infected Subjects. *J.M.A. Lange, F. de Wolf, P. Cload, J. Houweling, J. de Gans, J. Mulder, P.T.A. Schellekens, R.A. Coutinho, A.P. Fiddian, J. van der Noordaa and J. Goudsmit. University of Amsterdam, The Netherlands.*

11:15 Intranasal Tolerance of Recombinant Interferon-αCon1 in Healthy Volunteers. *F. Hayden, D. Innes, S. Mills and P. Levine. University of Virginia, U.S.A.*

11:30 Interferon alfa-n1 in the Treatment of Refractory Genital Warts: Results of a Multistudy Program. *P.K. Weck and D.A. Buddin. Burroughs Wellcome Co., U.S.A.*

11:45 Intravenous Ribavirin Therapy of Hemorrhagic Fever with Renal Syndrome (HFRS). *J.W. Huggins, C.M. Hsiang, T.M. Cosgriff, M.Y. Guang, J.I. Smith, Z.A. Wu, J.W. LeDuc, Z.M. Zheng, J.M. Meegan, C.N. Wang, X.E. Gui, K.W. Yuan, T.M. Zhang, P.H. Gibbs and D.D. Oland. USAMRIID, U.S.A. and Hubei Medical College, China.*

12:00 Lunch

Oral Session V: Auditorium

Immunomodulation and Drug Resistance

Co-chairmen: *S. Baron and H. Eggers*

1:00 Immunotherapy of Viral Diseases
Thomas C. Merigan. Stanford University School of Medicine, U.S.A.

1:45 Potential for Antibody Therapy of Herpesvirus Infections: Animal Models
Ryoichi Mori. Kyushu University, Japan.

2:30 Break

3:00 The Development of Antiviral Drug Resistance: Mechanisms and Clinical Consequence
Graham Darby. Wellcome Research Laboratories, U.K.

3:45 In Vivo Reconstruction Studies: Effects of Pathogenic ACV-resistant Virus on Pattern of Infection and Clinical Outcome. *M.N. Ellis, E. Hill, R. Waters, D. Selleseth and D.W. Barry. Burroughs Wellcome Co., U.S.A.*

4:00 Treatment of Genital HSV2 with R-837. *C.J. Harrison, L. Jenski, R.L. Miller and D.I. Bernstein. Children's Hospital Research Foundation and Riker Labs, U.S.A.*

4:15 Effects of a Series of Immunomodulators on Experimental Phlebovirus Infections. *R.W. Sidwell, J.H. Huffman, B.B. Barnett, M. Kende and D.Y. Pifat. Utah State University and USAMRIID, U.S.A.*

4:30 A comparison of Adjuvant Efficacy for a Recombinant Herpes Simplex Virus Glycoprotein Vaccine. *R.L. Burke, L. Sanchez-Pescador, G. Ott and G. Van Nest. Chiron Corporation, U.S.A.*

5:00 **Poster Session II:** Hilton Conference Center

Antiviral Agent Evaluation: Immunotherapy, Animal Models and Clinical Trials

McClure, D. Anderson and P. Fultz. Veterans Administration Medical Center/Emory University, University of Georgia and Yerkes Primate Center/Emory University, U.S.A.

II - 13 Murine Retrovirus Models in AIDS Drug Development. *J.T. Rankin, M.A. Ussery, M. Kende, M.A. Chirigos and P.G. Canonico. USAMRIID, U.S.A.*

II - 14 Comparison of Antiviral Efficacy and Mechanism of Action of Immunomodulators Against Exotic RNA Viruses. *A.J. Pinto, D. Stewart, P.S. Morahan and M. Brinton. Medical College of Pennsylvania and The Wistar Institute, U.S.A.*

II - 15 Late Intervention Therapy Using Immunomodulators and Antiserum in a Model of Flavivirus Infection. *D.H. Coppenhaver, I.P. Singh, J. Poast, P. Sriyuktasuth, M. Sarzotti and S. Baron. University of Texas Medical Branch, U.S.A.*

II - 16 Ribavirin but not Interferon Protects Against Pichinde Arenavirus Infection. *H. Lucia, D.H. Coppenhaver, T. Stevens, P. Sriyuktasuth and S. Baron. University of Texas Medical Branch, U.S.A.*

II - 17 Adverse Effects of Recombinant Human Tumor Necrosis Factor on the Course of Simian Varicella Virus Infection in Monkeys. *K.F. Soike and C.W. Czarniecki. Delta Regional Primate Research Center and Genentech, Inc., U.S.A.*

II - 18 Toxicity Evaluation of 1-β-D-Ribofuranosyl-1,2,4-Triazole-3-Carboxamidine Hydrochloride (AVS 206) in Rhesus Monkeys: Comparison with Ribavirin. *D.Y. Pifat, R.W. Sidwell and P.G. Canonico. USAMRIID and Utah State University, U.S.A.*

II - 19 Cell-Mediated Antiherpetic Activity of a Streptococcal Preparation (OK-432) in Immunocompromized Hosts. *S. Ikeda, K. Sai, C. Nishimura and A. Yamamoto. Kitasato University and Chugai Pharmaceutical Co., Ltd., Japan.*

II - 20 Inhibition of HSV-2 Replication in Vero Cell by Spleen and Lymphnode Cells of Mice Infected With HSV-2 and Treated With Interferons. *Y.-G. Man. Hubei Medical College, China.*

II - 21 Effect of 9-(1,3-dihydroxy-2-propoxymethyl) guanine (DHPG) on Cell Mediated Immune (CMI) Response of Normal and Murine Cytomegalovirus (MCMV) Infected Mice. *J. Shelby, E.R. Kern and J.R. Saffle. University of Utah School of Medicine, U.S.A.*

II - 22 Combined Effects of r Interferon-β and AZT on HIV Replication In Vitro. *G.J. Williams and C.B. Colby. Southern Research Institute and Triton Biosciences, U.S.A.*

II – 23 Combination of Acyclovir (ACV) Plus Vidarabine (ara-A) or ACV Plus Interferon (IFN) Against Herpes Simplex Virus Type 1 (HSV-1) and HSV-2 in Cell Cultures. *J.C. Overall, Jr., A. Moon and E.R. Kern. University of Utah School of Medicine, U.S.A.*

II – 24 Effect of Combination Therapy With Adenine Arabinoside (ara-A) and Acyclovir (ACV) in a Murine Model of Herpes Simplex Virus Type 1 (HSV-1) Encephalitis. *E.R. Kern, P.E. Vogt and J.C. Overall, Jr. University of Utah School of Medicine, U.S.A.*

II – 25 Comparison of Treatment With Adenine Arabinoside, 2′,3′-diacetate (ara-ADA) With Adenine Arabinoside (ara-A) and Acyclovir (ACV) in Herpes Simplex Virus (HSV) Type 1 Infections in Mice. *P.E. Vogt and E.R. Kern. University of Utah School of Medicine, U.S.A.*

II – 26 Effect of 2-Acetylpyridine Thiosemicarbazones on In Vivo Type 2 Herpesvirus Infections. *J.H. Huffman, R.W. Sidwell, T.W. Schafer and C. Shipman, Jr. Utah State University, CytRx Corp. and University of Michigan, U.S.A.*

II – 27 Antiviral Activity of Compound 102 Against Guinea Pig Cytomegalovirus Infection. *F. Wang, C.K.Y. Fong and G.D. Hsiung. Yale University School of Medicine and VA Medical Center, U.S.A.*

II – 28 Antiviral Effect of Compound 2′-nor-cGMP Against Cytomegalovirus Infection in the Guinea Pig Model. *Z.H. Yang, R.L. Tolman, R.J. Colonno and G.D. Hsiung. Yale University School of Medicine, VA Medical Center and Merck, Sharp & Dohme Research Laboratory, U.S.A.*

II – 29 Cytomegalovirus (CMV) Infection in Immunocompromised Guinea Pigs: A Model for Testing Antiviral Agents In Vivo. *M.J.C. Aquino-De Jesus and B.P. Griffith. Yale University School of Medicine and VA Medical Center, U.S.A.*

II – 30 Herpes Simplex Virus Type 2 Genital Infection in Male Guinea Pigs. *D.I. Bernstein, D. Stephanopolous and M.G. Myers. J.N. Gamble Institute of Medical Research and Children's Hospital Research Foundation, U.S.A.*

II – 31 Influence of Adjuvant on Glycoprotein Immunotherapy of Recurrent Genital Herpes. *L.R. Stanberry, C.J. Harrison, D.I. Bernstein, R.L. Burke and M.G. Myers. Children's Hospital Research Foundation and Chiron Corporation, U.S.A.*

II – 32 Reactogenicity and Immunogenicity of a Third Yeast-Derived Hepatitis B Vaccine (Cilag CC 2572-P-101). *M. Gesemann, N. Scheiermann, N. Friedmann and I. Mirman. University of Essen Medical School, F.R.G., Municipal Hospital Heilbronn, F.R.G. and Johnson and Johnson Biotechnology Center, U.S.A.*

II – 33 Focal Herpes Simplex Virus Type 1 (HSV-1) Encephalitis (HSE) of the Olfactory System: A Primary Infection Rabbit Model of Human Disease. *R.J. Wanklin, J.M. Holden, H. Neyndorff and S.L. Sacks. University of British Columbia Department of Medicine, Canada.*

II – 34 Antiviral Efficacy of Newer Antiviral Agents in Animals. *E.D. Varnell, H.E. Kaufman, E. De Clercq, J.M. Hill and R.P. Schinazi. LSU Eye Center, LSU School of Medicine, U.S.A., Rega Institute, Belgium and Emory University, U.S.A.*

II – 35 Effect of 1-(2′-deoxy-2′-fluoro-β-D-arabinofuranosyl)-5-ethyluridine (FEAU) on Herpes Keratitis in Rabbits. *M.D. Trousdale, T.-L. Su, K.A. Watanabe and J.J. Fox. Doheny Eye Institute and Sloan-Kettering Institute, U.S.A.*

II – 36 Alpha Blockade Inhibits Induced Ocular Shedding of Latent HSV-1. *Y.J. Gordon, E. Romanowski, J. Berman, L. Olsakovsky and T. Araullo-Cruz. The Eye and Ear Institute of Pittsburgh, U.S.A*

II – 37 Effect of LY253963 on Ferret Body Temperature Following Influenza Virus Infection. *J. Tang, J. Terry, D.C. DeLong, B. Warren, J.D. Nelson, E. Wu and W.A. Spitzer. Lilly Research Laboratories, U.S.A.*

II – 38 Some Biological Properties of BRL 42810, a Well Absorbed Oral Prodrug of the Antiherpesvirus Agent BRL 39123. *M.R. Boyd, R. Boon, S.E. Fowles, K. Pagano, D. Sutton, R.A. Vere Hodge and B.D. Zussman. Beecham Pharmaceuticals, U.K.*

II – 39 Selection of an Oral Prodrug (BRL 42810) for the Anti-Herpesvirus Agent BRL 39123. *R.A. Vere Hodge, D. Sutton, M.R. Boyd and M. Cole. Beecham Pharmaceuticals, U.K.*

II – 40 Clinical Experience With Parenteral Foscarnet. *B. Oberg, S. Behrnetz, A. Larsson, J.-O. Lernestedt and J. Sjovall. Astra Alab AB, Sweden.*

II – 41 Effective Therapy of Epidemic Hemorrhagic Fever Patients With Ribavirin Decreasing Mortality and Reversible Anemia. *C.M. Hsiang, M.Y. Guang, C.N. Wang, Z.M. Zhang, Z.O. Wu, X.Q. Ge, T.M. Zhang, X.E. Gui, J.W. Huggins, T.M. Cosgriff, J.I. Smith, J.W. LeDuc and J.M. Meegan. Hubei Medical College, China and USAMRIID, U.S.A.*

II – 42 A Study Effects of Ribavirin on the White Blood Cell System and Platelet in Patients With Epidemic Hemorrhagic Fever. *T.-M. Zhang, J.W. Huggins, C.-M. Hsiang, T.M. Cosgriff, J.I. Smith and C.-S. Niu. Hubei Medical College, China and USAMRIID, U.S.A.*

II – 43 Improvement of Some Hematological Parameters in the Ribavirin Treated Epidemic Hemorrhagic Fever Patients in Hubei, China. *L.-B. Xiang, T.M. Cosgriff and C.-M. Hsiang. Hubei Medical College, China and USAMRIID, U.S.A.*

II - 44 Low Dose Interferon Alfa-2b (IFN) Delays the Onset of Symptoms in Experimental Rhinovirus (RV) Colds. *C. Meschievitz and R. Turner. Schering Corporation and Medical University of South Carolina, U.S.A.*

II - 45 Modulation of Interferon/Acyclovir Effects by Indomethacin in Chronic Hepatitis B. *L. Berk, R.A. de Man, J. Lindemans, R.A. Heijtink and S.W. Schalm. University Hospital Dijkzigt, The Netherlands.*

II - 46 The influence of Small Dosages of Interferon on Viruses on Different Stages of Chronic Hepatitis B. *Z.-Q. Wu and K.-J. Xiong. Wuhan Institute of Virology and Wuhan Medical College, China.*

II - 47 The Followed-up Observation of Antiviral Treatment With Small Dose Interferon in Chronic Hepatitis B. *Z.-Q. Wu and H.-F. Huang. Wuhan Institute of Virology and Wuhan Medical College, China.*

II - 48 Effect of Small Dosage of Interferon on Viral Markers of Chronic Hepatitis B. *Z.-Q. Wu and K.-J. Xiong. Wuhan Institute of Virology and Wuhan Medical College, China.*

II - 49 Effect of Small Dose Interferon of Human Leukocytes on Three Viral Antigen of Hepatitis B. *Z.-Q. Wu and K.-J. Xiong. Wuhan Institute of Virology and Wuhan Medical College, China,*

II - 50 Inhibitors of Glycoprotein-Trimming Enzymes Block HIV and CMV Growth. *D.L. Taylor and A.S. Tyms. Clinical Research Centre and St. Mary's Hospital Medical School, U.K.*

II - 51 Anti-Influenza Virus Activity of Rimantadine: Sensitivity of Recent Epidemic Strains Tested by Three Methods and Comparison with Amantadine and the New Antiviral Compound ICI 130,685. *R.L. Cerruti, I.S. Sim and R.B. Belshe. Hoffmann-La Roche Inc. and Marshall University School of Medicine, U.S.A.*

II - 52 Antiviral Activity of HOE 602 and Analogues Against Herpes Simplex Virus Infections. *M. Helsberg, I. Winkler, Ch. Meichsner, H. Rolly, E. Winkelmann, G. Jahne, Th. Hilpert, W. Hertzsch, M. Rosner and A. Sinharay.* Hoechst AG, F.R.G.

II . 53 Effect of Liposome Encapsulated Recombinant Herpes Simplex Glycoprotein in Controlling Recurrent Herpes Genitalis. *R.J.Y. Ho, R.L. Burke and T.C. Merigan. Stanford University School of Medicine, Stanford and Chiron Corporation, U.S.A.*

II - 54 Up Modulation of the Host Immune Response for Anti-Viral Treatment with DHEA. *R.M. Loria, T.H. Inge and W. Regelson. Virginia Commonwealth University Schools of Basic Health Sciences and Medicine, U.S.A.*

THURSDAY

April 14

Oral Session VI: Auditorium

Novel Approaches to Antiviral Agent Design and Evaluation

Co-chairman: *P.F. Torrence and R.J. Whitley*

8:00 The application of Molecular Biology to Influenza Drug Development. *Peter M. Palese. Mt. Sinai School of Medicine, U.S.A.*

8:45 Sugar Modified Oligonucleotides for the Design of Potential Antiviral Agents. *J.L. Imbach and B. Rayner. Université des Sciences, France.*

9:00 The Role of Suramin as an Antiviral Reagent. *W.S. Mason, D.J. Petcu, L. Coates, C. Aldrich and J.M. Taylor. Fox Chase Cancer Center, U.S.A.*

9:15 Effect of 2-Acetylpyridine Thiosemicarbazone on Host Range Mutants of Herpes Simplex Virus Type 1 Lacking Ribonucleotide Reductase Activity. *S.R. Turk, C. Shipman, Jr., D.J. Goldstein and S.K. Weller. University of Michigan and University of Connecticut, U.S.A.*

9:30 Break

10:00 Pharmacological Significance of Selective Uptake of Nucleoside Analogs by Virus-Infected Cells. *N.K. Ayisi and E. De Clercq. University of Maiduguri, Nigeria and Rega Institute, Belgium.*

10:15 Inhibition of Human Immunodeficiency Virus (HIV) Infection of Fresh Peripheral Blood Monocyte/Macrophages (M/M) by Dideoxynucleosides and Phosphonoformate. *C.F. Perno, D. Cooney, R. Yarchoan, T. Gerrard, S. Gartner, N. Hartman, M. Popovic, D. Johns and S. Broder. COP, DTP and LTCB, NCI and CBER, FDA, U.S.A.*

10:30 Differential Reconstitution of Azidothymidine-Induced Inhibition of Mitogenic Responses by Interleukin-2 in Lymphocytes from Patients With the Acquired Immunodeficiency Syndrome. *M. Nokta and R.B. Pollard. University of Texas Medical Branch, U.S.A.*

10:45 Cytomegalovirus Antigens Identified by Human Monoclonal Antibodies. *P.A. Bradshaw, S. Perkins, E. Lennette, C.F. Hayes and S.K.H. Foung. Stanford University School of Medicine and Virolab Inc., U.S.A.*

11:00 Combined Antiviral Action of Tumor Necrosis Factor and Interferon In Vivo. *D.H. Coppenhaver, M. Sarzotti, P. Sriyuktasuth, J. Poast, I.P. Singh and S. Baron. University of Texas Medical Branch, U.S.A.*

11:15 The Importance of Clinical Pharmacology in the Development of Antiviral Agents: Future Directions.
Paul S. Lietman. John's Hopkins University School of Medicine, U.S.A.

12:00 Closing Remarks. *President, ISAR*
Adjourn