CURRICULUM VITAE
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EDUCATION:

1983 B.S., Biological Sciences, with honors. Florida Institute of Technology, Melbourne, Florida.
1985 M.S., Molecular Biology, Florida Institute of Technology, Melbourne, Florida.
1989 Ph.D., Microbiology and Immunology. College of Medicine, University of Florida, Gainesville, Florida.

TRAINING and POSITIONS:

1983 – 1985	Graduate student, Florida Institute of Technology, Melbourne, FL. (Advisor: Kenneth L. Kasweck, Ph.D.)
1985 – 1989	Graduate student, Department of Immunology and Medical Microbiology, University of Florida. Gainesville, FL. (Advisor: Michael D.P. Boyle, Ph.D.)
4/89 - 10/89	Postdoctoral Associate, Department of Medicine, Uni. of Florida. (Advisor: Richard Lottenberg, M.D.)
11/89 - 1/90	Microbiologist (GS-11), Laboratory of Viral Diseases (LVD), National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland. (Advisor: Bernard Moss, M.D.)
1990 - 1992	National Research Council Research Associate, LVD, NIAID, NIH. (Advisor: Bernard Moss, M.D.)
1993 - 1996	IRTA Fellow, LVD, NIAID, NIH. (Advisors: Bernard Moss, M.D. and Edward A. Berger, Ph.D.)
1996-2000	Assistant Professor, primary appointment: Department of Microbiology and Immunology and secondary: Molecular and Cell Biology Graduate Program, USUHS, School of Medicine, Bethesda, MD.
2000-2005	Associate Professor, primary appointment: Department of Microbiology and Immunology; Associate Professor of Emerging Infectious Diseases (secondary) USUHS, School of Medicine, Bethesda, MD.
2005-present	Professor, Department of Microbiology and Immunology, Joint appointment, Emerging Infectious Diseases Graduate Program, USUHS, Bethesda, Maryland.
2006-present	Director, Emerging Infectious Diseases Graduate Program, USUHS, Bethesda, Maryland.

HONORS:

1987, 1988	National Institutes of Health Training Grant Award
1989	Medical Guild Graduate Research Award
1990-1992	National Research Council Research Associateship Award
1993-1996	National Institutes of Health Intramural Research Training Award Fellowship
1996	The Fellows Award for Research Excellence, Office of Science Education, NIH
1996	Breakthrough of the Year, Science; American Association for the Advancement of Science.
1997	Newcomb Cleveland Prize, American Association for the Advancement of Science.
2001	Outstanding Instructor in Virology, USU, School of Medicine Class of 2003
2008	Henry Wu Award for Excellence in Basic Science Research

PATENTS and INVENTIONS:

- Bacterial Plasmin Receptors as Fibrinolytic Agents: **U.S. Patent No. 5,237,050.**
- Oligomeric HIV-1 Envelope Glycoproteins (gp140): **U.S. Patent Nos. 6,039,957; 6,171,596.** Methods for Production, Purification, and Use as an Immunogen in Mammals.
- CC Chemokine Receptor 5 (CCR5) DNA, New Animal Models and Therapeutic Agents for HIV Infection. **U.S. Patent No. 7,151,087.**
- Cells Expressing Both Human CD4 and a Human Fusion Accessory Factor (CXCR4) Associated with HIV Infection: **U.S. Patent No. 6,197,578.**

- 4G10, a Monoclonal Antibody Against the Chemokine Receptor CXCR4, Raised Against a Synthetic Peptide of 38 Residues in Length Derived from the N-terminal Sequence of CXCR4. DHHS Reference No. E-340-2002/0.
- Compositions and Methods for the Inhibition of Membrane Fusion by Paramyxoviruses: **U.S. Patent No 7,666,431.**
- HIV envelope glycoproteins stabilized by flexible linkers as potent entry inhibitors and immunogens: Ref# E-039-02/0.
- Soluble Forms of Hendra and Nipah Virus G Glycoproteins. U.S. Provisional Filing; 26842-30019.00.
- Modified Oligomeric HIV-1 gp140 Envelope Proteins. U.S. Serial No.: 60/608,144.
- Human Monoclonal Antibodies against Hendra and Nipah viruses. US and Foreign. PCT/US2005/040050.

PROFESSIONAL SOCIETIES:
American Society for Microbiology (ASM)
American Association for the Advancement of Science (AAAS)
American Society for Virology (ASV)
Asia Pacific Society for Medical Virology (APSMV)
American Society of Tropical Medicine and Hygiene (ASTMH)

DEPARTMENTAL RESPONSIBILITIES:
Annual: Lecturer; virology - microbiology and immunology course; graduate and medical students.
Biannual: Graduate Molecular Virology, Lecturer and co-director

Current and Former Postdoctoral Trainees:
Krishnamurthy Govindaraj, Ph.D., Institute of Medical Sciences, Lucknow, India. 1999-2004. (Research Associate, Henry M. Jackson Foundation for the Advancement of Military Medicine).

Hong Chen, M.D., Hunan Medical Uni. Hunan, China. 1997-00. (Sen. Scientist, AscentGene, Inc., College Park, MD).

Sanjay Phogat, Ph.D., University of Delhi South Campus, New Delhi, India. 2000-2001. (Principal Scientist Immunogen Design, International AIDS Vaccine Initiative (IAVI), New York).

Tzanko S. Stantchev, M.D., Varna Institute of Medicine, Rousse, Bulgaria. 1998-2008. (Staff Fellow, Division of Monoclonal Antibodies, CDER, FDA, Bethesda, MD).

Anil Choudhary, Ph.D., University, Rohtak, India. 2001-2006. (Scientist, Profectus BioSciences, Inc. Baltimore, MD).

Antony S. Dimitrov, Ph.D., The University of Tokyo, Japan. 2004-2006. (Senior Staff Scientist, Profectus BioSciences, Inc. Baltimore, MD).

Matthew I. Bonaparte, Ph.D., SUNY Upstate Medical University, 2005-2007. (Scientist, Global Clinical Immunology Sanofi Pasteur, Swiftwater, PA).

Dimple Khetawat, Ph.D., University of Calcutta, India. 2003-
Yee-Peng Chan, Ph.D., The University of Malaya, Kuala Lumpur, Malaysia, 2005-
Vidita Choudhry, Ph.D., Jawaharlal Nehru University, New Delhi, India 2006-

Current and Former Graduate Students:
Donald J. Chabot, Ph.D. (Microbiology and Immunology-97'; 2000), (Microbiologist, Clinical Research Management, Inc./ Team Akimeka, USAMRIID, Bacteriology Division, Fort Detrick, MD).

Agnes Jones-Trower, Ph.D. (Molecular and Cellular Biology-97', 2001), Staff Fellow, Division of Viral Products, CBER, FDA, Bethesda, MD).

Katharine Bossart, Ph.D. (Microbiology and Immunology-98'; 2003), (Assistant Professor, Department of Microbiology, Boston University School of Medicine; Investigator, National Emerging Infectious Disease Laboratory (NEIDL) Boston).

Jared Patch, Ph.D. (Emerging Infectious Diseases-01'; 2007), (Research Microbiologist, Foreign Animal Disease Research Unit, Plum Island Animal Disease Center, USDA, NY).

Julie A. Pavlin, COL, MPH, M.D., Ph.D. (Emerging Infectious Diseases-00'; 2007), (Chief, Dept of Global Emerging Infections Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand).

Kimberly Bishop, Ph.D. (Emerging Infectious Diseases-02': 2007), (Sequencing Team Leader, Genomics Dept., Biological Defense Research Directorate (BDRD) Naval Medical Research Center (NMRC), Rockville, MD).

Andrew Hickey, Ph.D. (Emerging Infectious Diseases-03': 2009), (Postdoctoral Fellow, Department of Microbiology, Boston University School of Medicine; National Emerging Infectious Disease Laboratory (NEIDL) Boston).

Stephanie Petzing (Emerging Infectious Diseases-05')
Dawn Weir (Emerging Infectious Diseases-07')

UNIVERSITY SERVICE:

1998- Uniformed Services University Merit Review Committee (USUHS study section)
1997-1998 Research Committee for the LCME report to the Board of Regents
1997-2000 Chair, Bio-Instrumentation Center Committee, Uniformed Services University
2000-2001 Faculty Senator, Basic Sciences
1997-2001 Comparability and Faculty Welfare Committee
2006- Program Director: Emerging Infectious Diseases
2006- Graduate Education Committee
2007- MD/PhD Admissions and Curriculum Committee
2008-2009 USUHS, School of Medicine 5-year Evaluation
2009 The Henry Wu Award and The James Leonard Award Selection Committee
2009- University Space Committee
2009- Chair, Basic Science Chairs Committee
2009- USU School of Medicine Strategic Planning Committee
2010 The Henry Wu Award and The James Leonard Award Selection Committee

OUTSIDE ACTIVITIES AND SERVICE:

National and International Committees and Boards:

1997 Board Member: Source Evaluation Board for Biotechnology of the National Institute of Standards and Technology, United States Department of Commerce, Advanced Technology Program.
1999 *Ad hoc* Member: Special Emphasis Panel on *HIV Neuropathogenesis* for the National Institute of Neurological Disorders and Stroke, National Institutes of Health.
2000 *Ad hoc* Member: Scientific Board of the Dutch Aids Fund, Netherlands.
2001 Program Reviewer, The Pasteur Institute: for the Unit of Viral Immunology, France.
2000-03 Member: Study Section: *Molecular Biology and Pathogenesis of HIV*. The University-wide AIDS Research Program. Office of the President of the University of California.
2003 *Ad hoc* Member: Experimental Virology (EVR) Study Section, NIAID, NIH.
2003 *Ad hoc* Member: AIDS Molecular and Cellular Biology Study Section, NIAID, NIH.
2003- Management and Oversight Committee Member. Middle Atlantic Regional Center of Excellence in Biodefense and Emerging Infectious Diseases Research.
2004 *Ad hoc* Member: Source Evaluation Board for Biotechnology of the National Institute of Standards and Technology, United States Department of Commerce, Advanced Technology Program.
2005- Review Committee Member; The National Screening Laboratory for the Regional Centers of Excellence for Biodefense and Emerging Infectious Disease (NSRB), Harvard Medical School, Boston, MA.
2005 Program Reviewer, for new research unit: "Host-Virus Relationships", in The Pasteur Institute: France.
2009 Member, National Veterinary Stockpile Nipah virus Countermeasures Workshop; United States Department of Agriculture; (Geelong, Australia; March 17-19 2009).
2007-12 Editorial board, Journal of Virology.
2010-12 Editorial board, Virology.

***Ad hoc* Reviewer for the Following Journals:** PNAS; AIDS Res. Hum. Retroviruses; AIDS Res. Therapy; J. Endotoxin Res.; J. Virol.; J. Infectious Diseases; Virology; J. Virol. Meth; Biotechnology; Nature Structural Biology, Nature Microbiology Reviews, Plos-Pathogens; Virology J.; Antimicrobial Agents and Chemotherapy; Antiviral Research, Monoclonal Antibodies.

RESEARCH EXPERIENCE AND INTERESTS:

M.S. Thesis (85'): "Analysis of Thymidine Kinase Messenger RNA and Construction of a cDNA Library from Mouse L5178Y Cells".

Ph.D. Thesis (89'): "Isolation and Characterization of a Group A Streptococcal Receptor for Human Plasmin".

Current: Interactions between pathogenic human and zoonotic enveloped animal viruses and host cells: virus receptors; envelope glycoprotein structure and function; vaccines; antiviral therapeutics; virus assembly and budding.

ACTIVE SUPPORT:

Grant Title: Emerging Viruses and Host Cell Interactions in Bats
Grant Number: R073SA
Grant Period: 10/01/09-09/30/12
Total Direct: $60,000 Agency: USUHS/DOD, Role: Principal Investigator

Grant Title: Biodefense and Emerging Infectious Diseases Research: (Middle Atlantic Regional Center of Excellence)
Program II: Emerging Virus Entry into Host Cells: Strategies for Inhibition
Project II-3: Australian Bat Lyssavirus Tropism Entry and Host Factor Dependence
Grant Number: 2U54 AI057168
Grant Period: 08/01/03 – 02/28/14
Total Direct: $1,661, 546 Agency: NIH/NIAID, Role: Principal Investigator, Project II-3

Grant Title: Nipah Virus and Hendra Virus Entry and Virion Assembly
Grant Number: R01 AI054715
Grant Period: 04/01/06-03/31/11
Total Direct: $1,225,000 Agency: NIH/NIAID, Role: Principal Investigator

Grant Title: High Potency HIV-1 Broadly Cross-Reactive Neutralization
Grant Number: U01AI078412
Grant Period: 04/01/2008 – 03/31/2013
Total Direct: $3,000,000 Agency: NIH/NIAID, Role: Co-Principal Investigator

Grant Title: Vaccines and Therapeutics for Nipah and Hendra virus
Grant Number: U01AI077995
Grant Period: 06/01/2008 – 05/31/2013
Total Direct: $5,617,562 Agency: NIH/NIAID, Role: Principal Investigator

Grant Title: Nipah & Hendra virus Nonhuman Primate Model & Therapeutics Development
Grant Number: U01 AI182121
Grant Period: 03/15/2009 – 02/28/2014
Total Direct: $6,940,076. Agency: NIH/NIAID, Role: Co-Principal Investigator (with T. Geisbert, Boston University and the National Emerging Infectious Diseases Laboratories). Sub-award (USUHS): $1,575,649 (direct)

PREVIOUS SUPPORT:

Grant Title: Structural and Functional Analysis of HIV-1 Entry Cofactors
Grant Number: R0 73FG-01
Grant Period: 10/01/96-09/30/99
Total Direct: $81,000 Agency: USUHS/DOD, Role: Principal Investigator

Grant Title: HIV-1 Fusion Cofactors
Grant Number: R01 AI043885
Grant Period: 07/15/98-01/31/10
Total Direct: $2,167,550 Agency: NIH/NIAID, Role: Principal Investigator

Grant Title: Analysis of Oligomeric HIV-1 Envelope Glycoproteins
Grant Number: R21 AI42599-01
Grant Period: 11/01/97-10/31/00-expiring
Total Direct: $300,000 Agency: NIH/NIAID, Role: Principal Investigator

Grant Title: HIV-1 Envelope-CD4-Coreceptor Complexes as Vaccines
Grant Number: R21 AI47697-01
Grant Period: 7/01/00-6/30/02
Total Direct: $300,000 Agency: NIH/NIAID, Role: Principal Investigator

Grant Title: Program title: Broadly Effective Neutralization and CTL against HIV-1
Project 2 title: HIV-1 gp140 Oligomers as Vaccine immunogens
Grant Number: PO1 AI48380
Grant Period: 09/01/01-06/31/06
Total Direct: $1,261,561 Agency: NIH/NIAID, Role: Principal Investigator, Project 2

Grant Title: Nipah Virus and Hendra Virus Subunit Vaccines
Grant Number: R21 AI065597
Grant Period: 07/01/05-06/30/07
Total Direct: $275,000 Agency: NIH/NIAID, Role: Principal Investigator

Grant Title: Nipah Virus and Hendra Virus Peptide Therapeutics
Grant Number: U01 AI056423

Grant Period: 09/15/03 – 08/01/08
Total Direct: $2,025,326 Agency: NIH/NIAID, Role: Principal Investigator

Grant Title: Characterization of the Envelope Glycoproteins of Beilong and J-virus
Grant Number: R073NN
Grant Period: 10/01/06-09/30/09
Total Direct: $60,000 Agency: USUHS/DOD, Role: Principal Investigator

INVITED LECTURES:

1994. Department of Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA. Jan 13. ***"HIV-1 Envelope Glycoprotein Mediated Cell Fusion: Structural Features of CD4 and Involvement of Accessory Components"***.

1994. GSF-Forschungszentrum für Umwelt und Gesundheit, GmbH, Neuherberg. Institut für MolekulareVirologie, Oberschleißheim, Germany. Current Advances In Molecular Biology Seminar Series. Aug 10. ***"Factors Associated with the Selective Fusogenic Activities of HIV-1 Envelope Glycoproteins for Specific CD4$^+$ Cell Types"***.

1995. Department of Microbiology, campus-wide series. University of Pennsylvania School of Medicine, Philadelphia, PA 19106-6076. February 22. **"*Molecular Characterization of Viral Glycoprotein Mediated Membrane Fusion"***.

1996. 3rd International Workshop on HIV and Cells of Macrophage Lineage. Villa Monastero, Piazza Venini, Varenna (CO) Italy. October 17. ***"HIV Tropism: Distinct Accessory Fusion Factors for Different CD4$^+$ Cell Types".***

1998. Molecular Basis of Disease / Molecular and Cellular Biology Program, Medical College of Ohio, Health Education Building, Toledo, Ohio. February 17. ***"HIV: Envelope Glycoprotein and Membrane Receptors"***.

1999. Division of Retrovirology, Walter Reed Army Institute of Research,. Dec 10. ***"HIV Envelope and Virus Entry"***.

2000. Division of Viral Products, seminar series-CME credit approved, CBER, FDA, NIH, Bethesda, MD. February 24. ***"HIV-1 Envelope Glycoprotein: Receptor Interactions and Refined Subunit Immunogens"***.

2000. Center for Immunology & Microbial Disease, CME approved. Albany Medical College, Albany New York. March 27. ***"HIV-1 Envelope Glycoprotein-Receptor Interactions and new Subunit Immunogens"***.

2000. 2nd Frederick Workshop on the Cell Biology of Viral Entry. May 7-10, NCI-FCRDC, Frederick, MD, Invited Chair, Session I: ***"Virus-Receptor Interactions and Entry"***.

2001. Indiana University School of Medicine, Department of Microbiology, Walther Oncology Center, CME credit Indianapolis, IN, Mar 15, 2001. ***"Virus-Receptor Interactions: Tropism, Entry, and Refined Subunit Immunogens"***.

2001. Department of Microbiology, campus-wide seminar series-CME credit approved. University of Pennsylvania School of Medicine, Philadelphia, PA. October 3. ***"Functional and Structural Studies on Hendra and Nipah viruses - Newly Emerging and Highly Lethal Zoonotic Paramyxoviruses".***

2002. 2nd Collaborative Research Seminar on HIV and other Viral Entry Inhibitors. New York, NY. May 5.***"Hendra and Nipah Viruses – Newly Emerging and Highly Lethal, Zoonotic Paramyxovirus Threats".***

2002. 3rd Frederick Workshop on the Cell Biology of Viral Entry. NCI-Frederick Cancer Research and Development Center, MD. May 7.***"Hendra and Nipah Virus Envelope Glycoprotein-mediated Fusion.***

2002. Department of Microbiology and Immunology, Georgetown University, Washington, DC. Nov. 8. "***Nipah and Hendra Viruses Emerging Zoonotic Paramyxovirus Threats".***

2002. Division of Viral Products, seminar series-CME approved, CBER, FDA, NIH, Bethesda, MD. Nov. 14. ***"Nipah and Hendra Viruses Emerging Zoonotic Paramyxovirus Threats".***

2003. 2003-Biodefense Vaccines, Therapeutics and Diagnostics: *Policy, Funding,* Development, Testing, Production, and Distribution. Biodefense Vaccines: The State of the Science. June 2-4, Washington, D.C. "***Hemorrhagic Fever and Emerging Viruses: Vaccines and Antiviral Agents".***

2003. NIH Research Festival. Mini-Symposia. Virus Entry – Virus Receptor Interactions. NIH, Bethesda, MD. Oct. 15. "***Nipah Virus and Hendra Virus Fusion, Entry, and its Inhibition".***

2003. Norman P. Salzman Fourth Annual Symposium in Virology: **Highly Pathogenic Viruses: Potential Agents of Bioterrorism.** FDA and the Foundation for the National Institutes of Health. *"**Nipah Virus and Hendra Virus: Emerging Zoonotic Paramyxovirus Threats".*** Nov 20, Cloisters Chapel, Building 60, NIH Campus, Bethesda, MD.

2003. 6th Asia Pacific Congress of Medical Virology. "***Nipah Virus and Hendra Virus Fusion, Entry, and its Inhibition".*** Dec. 6-10. Kuala Lumpur, Malaysia.

2004. USAMRIID, Fort Detrick, MD. Mar 9. **"*Nipah and Hendra: Emerging Viral Threats".***

2004. First Annual Regional Centers for Biodefense and Emerging Infectious Diseases Research meeting. Bethesda, MD. April 19-20. ***"Middle-Atlantic RCE Research Program 2: Emerging Viruses".***

2004. Department of Microbiology and Immunology, SUNY Upstate Medical University, Syracuse, New York. April 29. **"*Nipah and Hendra: Emerging Viral Threats".***

2004. 4th Frederick Workshop on the Cell Biology of Viral Entry. NCI-Frederick, MD. May 4. "Viral Envelope Glycoproteins and Their Receptors". ***"A Soluble Hendra Virus Attachment Envelope Glycoprotein Blocks Fusion".***

2005. Second Annual Regional Centers for Biodefense and Emerging Infectious Diseases Research meeting. Galveston, TX. March 13-15. ***"Receptor Binding, Fusion Inhibition, and Induction of Cross-Reactive Neutralizing Antibodies by a Soluble G Glycoprotein of Hendra Virus".***

2005. 2005 ASM Biodefense Research: Symposium: Advances in Molecular Pathogenesis of Threat Agents Baltimore, MD. March 23. ***"Biology of Nipah and Hendra Viruses: Implications for Development of Vaccines and Therapeutics".***

2005. 2005-Biodefense Vaccines & Therapeutics Symposium: State of the Science. Arlington, VA. ***"Antibodies, Vaccines and Therapeutics for Emerging Virus Threats".***

2006. University of Virginia, Jan 10. Charlottesville, VA ***."Hendra and Nipah Viruses: Different and Dangerous".***

2006. Third Annual Regional Centers for Biodefense and Emerging Infectious Diseases Research meeting. New York City, NY. Mar 28. ***"A feline model of acute Nipah virus infection and protective vaccination with a soluble G glycoprotein".***

2006. University of Kentucky, Department of Molecular and Cellular Biochemistry *Lexington, Kentucky Oct10.* ***"Hendra and Nipah viruses: From membrane fusion and receptors to potential therapeutic strategies"***

2006. Filoviruses: Recent Advances and Future Challenges: (ICID Global Symposia), Winnipeg, Canada. Sept 17-19. ***"Henipaviruses: From membrane fusion and receptors to Therapeutic Strategies".*** Plenary session.

2006. 7th Asia Pacific Congress of Medical Virology. "***Nipah Virus and Hendra Virus Fusion, Entry, and its Inhibition".*** Nov 12-15. New Delhi, India. Plenary session.

2007. University of Texas Medical Branch. August 12. ***"The Envelope Glycoproteins of Hendra and Nipah viruses: Multifunctional molecules, vaccine immunogens and therapeutic targets***".

2007. University of Pittsburg, Center for Vaccine Research Seminar Series. September 26. "***The Envelope Glycoproteins of Hendra and Nipah Viruses: Multifunctional Molecules, Vaccine Immunogens and Therapeutic Targets".***

2007. University of Maryland, Department of Microbiology and Immunology. October 3. *"**The Envelope Glycoproteins of Hendra and Nipah viruses: Multifunctional molecules, vaccine immunogens and therapeutic targets".***

2008. The 3rd International Symposium of Emerging Viral Diseases. Oct 26-28. ***"Nipah and Hendra Virus Glycoproteins and Receptor Interactions."*** Plenary. Wuhan Institute of Virology, Chinese Academy of Sciences. Wuhan, China.

2008. American Society of Tropical Medicine and Hygiene (ASTMH) annual meeting. Session co-organizer and co-chair. Henipaviruses. ***"Nipah and Hendra Virus Receptor Binding and Entry."*** December 7-11. New Orleans, Louisiana.

2009. National Veterinary Stockpile Nipah virus Countermeasures Workshop; United States Department of Agriculture; (Australian Animal Health Laboratory, CSIRO, Geelong, Australia; March 17-19 2009). ***"Status of Vaccines and Therapeutic Countermeasures against Hendra and Nipah viruses."***

2009. Division of Viral Products Seminar Series-CME approved, March 26, CBER, FDA, NIH, Bethesda, MD. *"**Nipah and Hendra Virus Entry and New Animal Models of Infection and Pathogenesis."***

2009. NIH, Virology Interest Group seminar series. May 7th, NIH, Bethesda, MD. Nipah and Hendra Virus: ***"Receptor Binding and Entry, and New Animal Models of Infection."***

2009. WHO/FAO/OIE Workshop on Henipaviruses and Ebola-Reston Virus. Twin Waters, Queensland, Australia, Oct. 12-16, 2009 ***"Status of Vaccines and Therapeutic Countermeasures against Hendra and Nipah viruses."***

2009. Penn State, Bortree Lecture Series, October 7, ***"Nipah and Hendra viruses: From Receptor Binding and Entry to New Animal Models of Infection".***

2009. Juniata College, Huntingdon, PA. October 8, ***"Emerging Infectious Diseases: Graduate Education and Research Opportunities".***

2009. New England Regional Center of Excellence in Biodefense and Emerging Infectious Diseases (NERCE-BEID) Workshop on Primate Infectious Diseases. Oct 28, ***"Hendra and Nipah virus –Therapeutics and new Primate Models".***

2009. Chemical, Biological, Radiological and Nuclear Countermeasures seminar series. BARDA, HHS, Nov. 17. ***"Vaccines and Therapeutic Countermeasures against Hendra and Nipah viruses".***

2009. IBC's 7th Annual International Conference: Antibody Therapeutics, San Diego, CA, Dec 8-10. ***"A Neutralizing Human Monoclonal Antibody Therapy for Nipah and Hendra Virus Infection".***

BIBLIOGRAPHY:

1. Lottenberg, R., **C.C. Broder**, and M.D.P. Boyle. Identification of a Specific Receptor for Plasmin on a Group A Streptococcus. Infection and Immunity. 55(8):1914-1918, 1987.
2. **Broder, C.C.**, R. Lottenberg, and M.D.P. Boyle. Mapping of the Domain of Human Plasmin Recognized by its Unique Group A Streptococcal Receptor. Infection and Immunity. 57(9): 2597-2605, 1989.
3. Appelgate, M.L., M.M. Moore, **C.C. Broder**, A. Burrell, G. Juhn, K.L. Kasweck, P-F. Lin, A. Wadhams, and J.C. Hoizer. Molecular Dissection of Mutations at the Heterozygous Thymidine Kinase Locus in Mouse Lymphoma Cells. Proc. Natl. Acad. Sci. USA. 87(1):51-55, 1990.
4. **Broder, CC**, R Lottenberg, GO vonMering, K. Johnston and MDP Boyle. Isolation of a prokaryotic plasmin receptor: relationship to a plasminogen activator produced by the same microorganism. J.Biol.Chem.266:4922-28, 1991.
5. McCoy, H.E., **C.C. Broder**, and R. Lottenberg. Strepokinases Produced by Pathogenic Group C Streptococci Demonstrate Species-Specific Plasminogen Activation. J. Infect. Dis. 164:515-521, 1991.
6. Lottenberg, R., **C.C. Broder**, M.D.P. Boyle, S.J. Kain, B.L. Schroeder, and R. Curtiss III. Cloning, Sequence Analysis, and Expression in *Escherichia coli* of a Streptococcal Plasmin Receptor. J. Bacteriology. 174:5204-5210, 1992.
7. **Broder, C.C.**, D.S. Dimitrov, R. Blumenthal, and E.A. Berger. The Block to HIV-1 Envelope Glycoprotein-Mediated Membrane Fusion in Animal Cells Expressing Human CD4 can be Overcome by a Human Cell Component(s). Virology. 193:483-491, 1993.
8. Dimitrov, D.S., **C.C. Broder**, E.A. Berger, and R. Blumenthal. Calcium Ions are Required for Cell Fusion Mediated by the CD4-HIV-1 Envelope Interaction. J.Virol.67:1647-52, 1993.
9. **Broder, C.C.**, and E.A. Berger. CD4 Molecules with a Diversity of Mutations Encompassing the CDR3 Region Efficiently Support HIV-1 Env Glycoprotein-mediated Cell Fusion. J.Virol. 67:913-926, 1993.
10. **Broder, C.C.**, O. Nussbaum, W.G. Gutheil, W.W. Bachovchin, and E.A. Berger. Evidence Against CD26 Involvement in HIV-1 Envelope Glycoprotein/CD4-Mediated Cell Fusion. Science. 264:1156-1159, 1994.
11. Nussbaum, O., **C.C. Broder**, and E.A. Berger. HIV-1 Envelope Glycoprotein/CD4 Mediated Cell Fusion: A Novel Recombinant Vaccinia Virus-Based Assay Measuring Activation of a Reporter Gene by Bacterio-phage T7 RNA Polymerase Selectively In Fused Cells. J.Virol. 68:5411-5422, 1994.
12. **Broder, C.C.**, P.L. Earl, D. Long, B. Moss, and R.W. Doms. Antigenic Implications of HIV-1 Envelope Glycoprotein Quaternary Structure: Oligomer-Specific and -Sensitive mAbs. Proc. Natl. Acad. Sci. USA. 91:11699-11703, 1994.
13. **Broder, C.C.**, P.E. Kennedy, F. Michaels, and E.A. Berger. Expression of Foreign Genes in Cultured Human Primary Macrophages Using Vaccinia Virus Vectors. Gene. 142:167-4, 1994.
14. Earl, P.L., **C.C. Broder**, D. Long, S. Lee, J. Peterson, S. Chakrabarti, R.W. Doms and B. Moss. Native Oligomeric Forms of HIV-1 Envelope Glycoprotein Elicit a Diverse Array of Monoclonal Antibody Reactivities. J. Virol. 68: 3015-3026, 1994.

15. Nussbaum, O., **C.C. Broder**, L. Bar-Lev Stern, S.Rozenblatt, B. Moss, and E.A. Berger. Functional and Structural Interaction between Measles Virus Hemagglutinin and CD46. J. Virol. 69:3341-3349, 1995.

16. **Broder, C.C.** and E.A. Berger. Fusogenic Selectivity of the Envelope Glycoprotein is a Major Determinant of HIV-1 Tropism for CD4+ T-Cell Lines vs. Macrophages. Proc. Natl. Acad. Sci. USA. 92:9004-08, 1995.

17. Golding, H., D.S. Dimitrov, J. Manischewitz, **C.C. Broder**, J. Robinson, S. Fabian, D. Littman, and C. Lapham. PMA-induced Downmodulation of Tailess CD4 Receptors Requires Prior Binding of gp120 and Suggests a Role for Accessory Molecules. J. Virol. 69:6140-6148, 1995.

18. Richardson, T.M., B.L. Stryjewski, **C.C. Broder**, J.A. Hoxie, J.R. Mascola, P.L.Earl, and R.W. Doms. The Humoral Response to Oligomeric HIV-1 Envelope Protein. J.Virol.70:753-62, 1996.

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