November 12, 2025

CURRICULUM VITAE

Ranjit Ray, PhD

PERSONAL:

Address:

Saint Louis University School of Medicine
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Division of Infectious Diseases & Immunology
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Place of Birth: Calcutta, India

Citizenship: USA

Marital Status: Married

POSITIONS HELD:

1986-1991 Senior Research Scientist, Secretech, Inc.
Birmingham, Alabama

1986-1991 Research Investigator, Department of Microbiology
University of Alabama at Birmingham
Birmingham, Alabama

1991-1993 Staff Scientist (SS IV)
National Institute of Immunology
New Delhi, India

1993-2000 Associate Professor
Division of Infectious Diseases & Immunology, Department Internal Medicine, and Department of Molecular Microbiology & Immunology, Saint Louis University, St. Louis, Missouri

2000-present Professor
Division of Infectious Diseases & Immunology, Department Internal Medicine, and Department of Molecular Microbiology & Immunology, Saint Louis University, St.

Louis, Missouri. Member, Liver Center, Saint Louis University. Member, Cancer Center, Saint Louis University.

July 1, 2015-June 30, 2018: Serving Executive Committee of the Faculty, Saint Louis University
July 1, 2015- June 30, 2018: Serving as a member of the School of medicine Credentials Committee, Saint Louis University

EDUCATION:

Institution & Location	Degree	Year	Subjects
University of Calcutta, India	B.Sc.	1972	Chemistry (Major) Physics/Mathematics
University of Calcutta, India	M.Sc.	1974	Biochemistry
University of Calcutta, India	Ph.D.	1982	Biochemistry

FELLOWSHIPS:

Junior Research Fellowship (March 1978-March 1981) and Senior Research Fellowship (April 1981-July 1983) from Indian Council of Medical Research.
Postdoctoral Research Fellowship (August 1983-July 1986) from the University of Alabama at Birmingham, Birmingham, Alabama, USA.

MEMBERSHIP:

American Society for Virology
American Society for Microbiology
American Association of Immunologists

CCSG Member of Siteman Cancer Center, Washington University School of Medicine, St. Louis

REVIEWED FOR:

Funding Agencies:

Medical Research Council of Canada
Swiss National Research Programme
National Institutes of Health
The Wellcome Trust
The WHO Programme for Vaccine Development
Veterans Affairs Medical Research Service

NIH Study Section Review

Ad hoc reviewer for Bio-Defense grant application, 2003.

Ad hoc reviewer for ZRG1 DIG-B(02) M-Study Section, September 30, 2005.

Ad hoc reviewer for Special Emphasis Panel RFA-NIH-NIAID-DMID-05-030, January 27, 2006.

Ad hoc reviewer for Cancer NCI PO1 Review, February 8, 2006.

Ad hoc reviewer for IDM-G90 (S) Study Section, February 23 & 24, 2006.

Ad hoc reviewer for Immunology and Host Defense (IHD) Study Section, June 15 & 16, 2006.

Ad hoc reviewer for ZAI1 MP-I (S3) Study Section, August 11, 2006.

Ad hoc reviewer for ZCA1 GRB-1 (J1) Study Section, September 11-13, 2006.

Ad hoc reviewer for ZCA1 RPRB-O (J1) Study Section: Cellular and Molecular Biology Special Emphasis Panel, September 27-29, 2006.

Ad hoc reviewer for ZRG1 IDM-G (91) Study Section, October 15-16, 2006

Ad hoc reviewer for Immunology and Host Defense (IHD) Study Section, October 19 & 20, 2006.

Ad hoc reviewer for Systems Approach to Immunity and Inflammation [ZAI1 MP-1 (C1)], NIAID Study Section, February 12& 13, 2007.

Ad hoc reviewer for Special Emphasis Panel [ZAI1-QV-A-S2], "NIAID Competing Supplements (revisions) for B Cell Immunology and HIV-1 Neutralizing Antibody Projects (RO1)", June 11, 2007.

Special Emphasis Panel/Scientific Review Group 2008/01 ZCA1 RPRB-M (J1) meeting, NCI, 09/26/2007-09/27/2007.

Mail reviewer for Gastrointestinal Cell and Molecular Biology Study Section (GCMB), February 5, 2008.

NIH, ZAI1 QV-M (S2). Review LRP Meeting Applications. May 08, 2008- May 09, 2008.

2008/10 ZCA1 RPRB-M (O1), SPORE in Prostate, Breast, Ovarian, Pancreatic and Gastrointestinal Cancers, June 9-10, 2008

2008/10 ZDK1 GRB-N (O3), Hepatitis C Ancillary Study

Vaccine Against Microbial Diseases (VMD) Study Section, Immunology Integrated Review Group. October 2-3, 2008.

Special Emphasis Panel (ZRG1 IDM-P 91 S, Topics in Virology), October 22nd, 2008.

Special Emphasis Panel (ZAI1 QV-I J2 1), November 12, 2008.

Special Emphasis Panel (ZDK1 GRB-N M4), February 5, 2009.

Cancer Etiology (CE) Study Section, February 9-10, 2009.

B Cell Epitope Discovery and Mechanisms of Antibody Protection, ZAI1 QV-I (C1) April 20-21, 2009.

Vaccine Against Microbial Diseases (VMD) Study Section, Immunology Integrated Review Group, May 28-29, 2009.

Cancer Etiology (CE) Study Section, June 8-9, 2009.

NCI ARRA Grand Opportunities Cancer Vaccines, ZCA1 GRB-I (09), August 05, 2009- August 06, 2009.

Special Emphasis Panel [ZAI1 BP-M (J1)], November 18-20, 2009. Hepatitis C Cooperative Research Centers

Member of NIH Study section CE, 2009 – 2012

Ad Hoc Reviewer, NCI Provocative Questions (PQ), 2012

Special Emphasis Panel, U. S.- China Program for Biomedical Collaborative Research (R01), ZCA1 SRLB-1 (M1), NCI, January 28, 2013

Special Emphasis Panel, U.S.-China Program for Biomedical Collaborative Research (R01) - 1 ZAI1 BDP-M (M1), NIAID, January 31, 2013 - February 01, 2013

RFA-AI-12-048. Special Emphasis Panel, Immune Mechanisms of Virus Control (U19). ZAI1-ZL-I (JI), November 13-14, 2013.

PAR13-228: Biomarkers for Diabetes, Digestive, Kidney and Urologic Diseases using Repository Biosamples 2014/05 ZDK1 GRB-S (M2) S 02/20/2014-02/20/2014

2014/05 ZPS1 GCA (20) R: National Center for HIV, STD, and TB Prevention Special Emphasis Panel. 06/10/2014.

Vaccine against Microbial Diseases (VMD) Study Section, 06/19-20/2014.

ZCA1 SRB-L (M1). Exploratory/Developmental Research Grant Program-Omnibus SEP12. Meeting date April 30, 2015.

Small Business: Non HIV Microbial Vaccine Research ZRG1 IMM-R 12B, March 10, 2016, Tampa, Florida

Vaccines for Microbial Diseases R21 meeting, ZRG1 IMM-R (90), March 11, 2016, Tampa, Florida

FDA Site Visit review meeting, Washington DC, March 22, 2016.

Non HIV Microbial Vaccine Research ZRG1 IMM-R (12) SBIR/STTR Study Section Review Meeting, June 14, 2016, MD.

Non-HIV Anti-Infective Therapeutics (ZRG1 IDM-X (10)B) Special Emphasis Panel Meeting on July 7-8, 2016, Chicago.

Clinical Trial Planning Grants (R34) Agenda Seq Num – 315895. 01/24/2017.

Special Emphasis Panel/Scientific Review Group 2017/05 ZRG1 IMM-R (12) B meeting, SanDiego, March 16, 2017.

Non-HIV Anti-Infective Therapeutics (ZRG1 IDM-X (10)B)" Special Emphasis Panel Meeting, Bethesda, March 20-21, 2017.

Clinical Research and Pediatric Research of NIH Loan Repayment Program (LRP). Special Emphasis Panel (SEP), April 18 to April 21, 2017.

Non-HIV Anti-Infective Therapeutics, ZRG1 IMM-X 10B SBIR/STTR Study Section Review Meeting, November 6-7, 2017, MD.

NIAID Clinical Trial Planning Grant (R34) and Implementation Cooperative Agreement (U01). 2018/01 ZAI1 GEB-I (J1) 1, November 9, 2017.

NIDDK- Hepatobiliary Pathophysiology Study Section, 02/22/-23/2018, Washington DC.

ZRG1 IDM-X 10 B, Non-HIV Anti-Infective Therapeutics, March 26, 2018 - March 27, 2018 Bethesda, MD

External Reviewer, Swiss National Science Foundation, June, 2018.

ZRG1 IMM-R (12) B, Small Business: Non-HIV Microbial Vaccines, 06/13/2018-06/13/2018, Bethesda, MD

ZRG1IDM-X (10)B,Non-HIVAnti-InfectiveTherapeutics,06/18/2018-06/19/2018, Hotel Edgewater, Seattle, WA

ZRG1 DKUS-J (82) review meeting on 12/05/ 2018.

ZRG1 IMM-R (90). R21 Vaccines and Immune Responses to Influenza. Agenda Seq Num – 359650. 03/07/2019.

ZRG1 IDM-X (10). Small Business: Non-HIV Anti-infective Therapeutics. Agenda Seq Num – 00362389, San Diego, 3/18/2019-03/19/2019.

ZRG1 IMM-R 12B, Small Business: Immune Responses and Vaccines to Non-HIV Microbial Infections. San Diego, 03/21/2019.

ZRG1 IMM-R 12B, Small Business: Immune Responses and Vaccines to Non-HIV Microbial Infections. Washington DC, 06/11/2019.

ZRG1 IDM-X (10B). Small Business: Non-HIV Anti-infective Therapeutics. Washington DC, 06/27-28/2019.

NIH ZRG1 IDM-X (10). Small Business: Non-HIV Anti-infective Therapeutics. Washington DC, 11/14-15/2019.

Vaccine against Microbial Diseases (VMD) Study Section, 06/25-26/2020.

COVID19 Emergency Awards, NIAID. July 31, 2020, SRO: L.-Yong Gao (NIAID)

National Cancer Institute Special Emphasis Panel National Cancer Institute ZCA1 GRB-I (A) SARS-CoV-2 Serological Sciences Centers of Excellence Agenda Seq Num - 400393 08/17/2020 - 08/18/2020

NIH Oct. 27, 2020 emergency COVID-19 review panel reviewing applications in response to PAR-20-177 and PAR-20-178, "Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19) (R21/R01 Clinical Trial Not Allowed)".

ZAI1 FDS-M (J1). Rational design of vaccines against hepatitis C virus (U19). NIAID, 11-18-19, 2020.

ZAI1 BLG-W M1 1: Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (R21/RO1), Brenda Lange-Gustafson, SRO. 01/21/2021

National Institutes of Health and the NIAID, Special Emphasis Panel on April 7 to April 9. 2021, to review the grant applications responding to OD-20-133/134/137 entitled Extramural Loan Repayment Program for Clinical Researchers.

NIH Research Initiative on ROA OTA 21-015B (Cohorts)- Post-Acute Sequelae of SARS-CoV-2 Infection (PASC), April 12, 2021.

NOT-AI-21-002: "Emergency Awards: Notice of Special Interest (NOSI) on Pan-Coronavirus Vaccine Development Program Projects)" on October 6-7, 2021.

NIH/NCI TOPIC 441: AT-HOME SCREENING FOR HEPATITIS C VIRUS, SBIR proposal, on March 15-16, 2022.

NIH/Special Emphasis Panel ZAI1-LK-D-S1 that met from May 4, 2022 to May 6, 2022, to review the Loan Repayment Program Applications.

NIAID 2022 DMID Omnibus BAA (HHS-NIH-NIAID-BAA2022-1) Research Area 001: Development of Vaccine Candidates for Biodefense, Antimicrobial Resistant (AMR) Infections and Emerging Infectious Diseases (N01)-1. August 3-4, 2022

NIH/NCI: SPECIAL EMPHASIS PANEL - ZCA1 RPRB-T (O1), NCI Program Project (P01) SEP-C. June 8-9, 2023.

Journals:

Advances in Virology
American Journal of Pathology
American Journal of Transplantation
Blood
Cancer Letters

Cell Death & Disease
Cellular and Molecular Life Sciences, Birkhauser, Basel
European Journal of Biochemistry
eBioMedicine
FASEB Journal
Gastroenterology
Gene
Hepatology
Journal of Clinical Investigation
Journal of General Virology
Journal of Hepatology
Journal of Infectious Diseases
Journal of Immunology
Journal of Medical Virology
Journal of the National Cancer Institute
Journal of Virology
mBio
Molecular & Cellular Biology
Molecular Therapy
Nature Communications
Nature Medicine
Nature Cell Biology
PLoS Pathogens
PLoS One
Proceedings of the National Academy of Sciences, U.S.A.
Science Advances
Vaccine
Virology
Virus Research

Member, Editorial Board, Virus Research
Member, Editorial Board, Journal of Virology
Member, Editorial Board, Scientific Reports (stepped down on July 19, 2023)
Academic Editor, PLoS ONE (until 2018)
Member, Editorial Board, Cells
Guset Editor, mBio

RESEARCH SUPPORT:

Co-Investigator. Development of Inactivated Vaccines for parainfluenza virus. Grant Number AI12677 (August 1983-March 1985) from the National Institute of Allergy and Infectious Diseases, Bethesda, Md.

Co-Investigator. Development of an Intranasal Vaccine for Parainfluenza virus. Grant Number V21/181/1 (October 1984-October 1986) from World Health Organization, Geneva, Switzerland.

Co-Investigator. Grant Number 84-402, (1984-1986) from Alabama Research Institute, USA.

Principal Investigator. The Development of an Oral Vaccine against Parainfluenza 3 Viruses. Cystic Fibrosis Research Center Mini-grant (1984-85).

Principal Investigator. Affinity Purification of Parainfluenza Virus Glycoproteins. Award Number N43-AI-5-2604, Total Support: $49,580, phase I (July 1986-January, 1986) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Principal Investigator. Affinity Purification of Parainfluenza Virus Glycoproteins. Award Number N44-AI-62604, Total Support: $498,100, phase II (August 1986-August 1989) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Principal Investigator. Monoclonal Antibodies to Human Parainfluenza Viruses Type 1 and Type 2, Phase I. Award Number N43-AI-72674, Total Support: $48,303 (July 1987-January 1988) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Co-Investigator. Potentiation of Vaccine Antigens. Grant Number 1AI24772, (January 1987-January 1990) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.Principal Investigator. Monoclonal Antibodies to Human Parainfluenza Viruses Type 1 and Type 2, Phase II. Award Number N44-AI-82504, Total Support: $500,000 (August 1988-August 1990) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Co-Investigator. Cloning and Expression of Human Parainfluenza Type 2 Virus Glycoprotein Genes. Award Number: N43-AI-95019. Total Support: $49,000; Phase I (June 1989-December 1989) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Principal Investigator. Cloning and Expression of Human Parainfluenza Virus Glycoprotein Genes. Award Number: NOI-AI-05083. Total Support: $499,576; Phase II (June 1990-June, 1993) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Principal Investigator. Evaluation of a Microencapsulated Vaccine. Award Number: 1 R43 30303-01; Total Support: $50,000; Phase I (September 1, 1990-February 28, 1991) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Co-Investigator. Vaccine Delivery System for Live Rotavirus Vaccines. Award Number: 1 R43 AI 30577-01; Total Support $50,000; Phase I (September 30, 1990-March 31, 1991) from the National Institute of Allergy and Infectious Diseases, Bethesda, MD.

Primary Investigator. Role of Respiratory Syncytial Virus Soluble Protein(s) in Pathogenesis and Immunity, Characterization of a Live Attenuated Parainfluenza Type 3 Candidate Vaccine Strain &

Basic Pathophysiology of Hepatitis C virus. Evaluation of control measures against infectious diseases other than AIDS. (Program Director: Robert B. Belshe) Award Number: NO1-AI-45250; Total Support $13 Million (September 30, 1994-September 29, 2001) from NIAID/DMID/NIH.

Co-Investigator. Hepatitis C Virus NS5A Protein and Pathogenesis. Award Number: RO1 AI45144-01; Total Support $1,100,000 (February 15, 1999-January 14, 2004) from the NIAID/NIH.

Principal Investigator. Role of HCV Core Protein in Hepatocyte Growth Regulation. Number 1R0356143-01. Total Support $240, 000 (August 1, 1999- July 31, 2003) from NIDDK/NIH.

Principal Investigator. HCV Envelope Glycoproteins and Vaccine Development. Number: 1RO1DK58023. Total Support $1,085,899 (September 30, 1999 - August 31, 2004) from NIDDK/NIH.

Primary Investigator. Virological Studies and Immune Responses to HCV-An ancillary study of the Hepatitis C Antiviral Long-term Treatment to Prevent Cirrhosis Trial AHALT@. Total support $3850,900 (November, 2000-October 2004) from NIDDK/NIH (NO1-DK-92324) as a part of the Research of Hepatitis Study Group, Saint Louis University.

Principal Investigator. Functional Activities of HCV Core Protein. Number 1R01CA85486. Total Support $1,228,600 (July 13, 2001-June 30, 2008) from NCI/NIH.

Co-Investigator. Evaluation of Control Measures Against Infectious Diseases Other than AIDS. Number N01-AI-25464 (Belshe) Total Support 2,852,655 (6/01/02 – 05/31/07) from NIH/NIAID

Principal Investigator. Identification of HCV E1 and E2 Inhibitors. Number AI068194-01 Subaward, Microbiotix (Basu). Total Support $75,000(February 1, 2006-January 31, 2007) from NIH/NIAID.

Principal Investigator. Qualitative nature of antibodies to HCV envelope subunit vaccine in humans. Number 1RO1AI068769. Total Support $ 1,323,000 (May 1, 2006-April 30, 2010) from NIH/NIAID.

Co-Investigator. Developing an in vitro system for HCV propagation. Research Award (R21AI065535) from the National Institute of Allergy and Infectious Diseases, NIH, .Total Support $275,000 (direct cost), July 14, 2008- June 30, 2011

Principal Investigator. Hepatitis C Virus Escape Mechanisms from Innate Immunity (Project 13). Midwest Regional Center of Excellence (MRCE) for Biodefense and Emerging Infectious Diseases Research. Number U54AI057160-06. Total Support $ 135,000/year (direct cost) (August, 2009- October 31, 2014).

Co-Investigator. Innate Immunity and Hepatitis C Virus Infection. Research Award (R01 DK080817) from the National Institute of Allergy and Infectious Diseases, NIH, Total Support $1,670,000 (direct cost) (August 1, 2009-June30, 2016).

Principal Investigator. Mechanisms of Liver Disease Progression by Hepatitis C virus. Number RO1DK080812. Total support $ 1,670,439 (August 1, 2009 – June 30, 2016).

Co- Investigator. HCV infection, cross-talk among liver cells, and liver disease progression R01 DK081817-06 (PI: Ratna B. Ray). Total support $1,704,375 (July 1, 2016-June 30, 2021).

Hepatitis C virus infection and mechanism of liver disease progression R01DK113645-01. Total support $1,704,375 (April 1, 2017- March 31, 2022).

Joint Principal Investigator. Investigate the gain of immune function after hepatitis C virus eradication from patients (Proposal Number 23989). U.S.-Japan Cooperative Medical Sciences Program Collaborative Awards, 2016. Jointly awarded by NIAID and the Japan Agency for Medical Research and Development (AMED) (April, 2017-March, 2018).

Principal Investigator**.** Selection of vaccine antigens for protection from hepatitis C. 1R01DK122401-01A1. Total support $340,875/year (07/01/2020 – 04/30/2026- year 6 in no cost extension).

PUBLICATIONS: (Published in high impact specialty journals, including Lancet, Hepatology, Journal of Infectious Diseases, Journal of Virology, and Journal of Immunology - http://www.ncbi.nlm.nih.gov/sites/myncbi/ranjit.ray.1/bibliography/40762063/public/?sort=date&direction=ascending)

1. **Ranjit Ray** and Asoke C. Ghose. 1980. Cultivation of *Leishmania donovani* in a high yielding liquid culture medium. Indian J. Med. Res. 71, 203-205.

2. Asoke C. Ghose and **Ranjit Ray**. 1983. Antigenic analysis of *Leishmania donovani* promastigotes. In: Recent advances in protozoan diseases. (D. Subrahmanyam and V. Radhakrishna, eds.) Scientific committee of Symposium, Hindusthan Ciba-Geigy Research Centre, Goregaon, Bombay, India, pp. 77-83.

3. **Ranjit Ray** and Asoke C. Ghose. 1984. Isolation and characterization of a glycoprotein antigen from *Leishmania donovani* promastigotes IRCS Medical Science 12, 380-381.

4. **Ranjit Ray** and Asoke C. Ghose. 1985. Somatic and excretory polysaccharide antigens of *Leishmania donovani* promastigotes. Australian J. Exp. Biol. & Med. Sc., 63, 411-422.

5. **Ranjit Ray**, Vivian E. Brown and Richard W. Compans. 1985. Glycoproteins of human parainfluenza type 3 virus: Characterization and evaluation as a subunit vaccine. J. Infect. Dis., 152, 1219-1230.

6. **Ranjit Ray** and Asoke C. Ghose. 1986. ELISA titers to polysaccharide antigens of *Leishmania donovani* promastigotes in Kala-azar. Trans. Roy. Soc. Trop. Med. Hyg. 80, 998.

7. **Ranjit Ray** and Richard W. Compans. 1986. Monoclonal antibodies reveal extensive antigenic differences between the hemagglutinin-neuraminidase glycoproteins of human and bovine parainfluenza type 3 viruses. Virology 148, 232-236.

8. **Ranjit Ray** and Richard W. Compans. 1987. Glycoproteins of human parainfluenza virus type 3: Affinity purification, antigenic characterization, and reconstitution into lipid vesicles. J. Gen. Virol. 68, 409-418.

9. **Ranjit Ray**, Brenda J. Glaze, Zina Moldoveanu and Richard W. Compans. 1988. The role of individual glycoproteins of human parainfluenza virus type 3 in the induction of a protective immune response. J. Virol. 62, 783-787.

10. **Ranjit Ray**, Brenda J. Glaze, Zina Moldoveanu and Richard W. Compans. 1988. Intranasal immunization with envelope glycoproteins of human parainfluenza virus type 3. J. Infect. Dis. 157, 648-654.

11. **Ranjit Ray**, Brenda J. Glaze, Tracie L. Burnett and Richard W. Compans. 1988. Induction of immunity against human parainfluenza virus infection by purified viral glycoproteins. (Laurence Lasky, ed.). UCLA Symposia on Molecular and Cellular Biology. Technological Advances in Vaccine Development. Alan R. Liss, Inc., New York, pp. 1-10.

12. **Ranjit Ray**, Mark S. Galinski and Richard W. Compans. 1989. Expression of the fusion glycoprotein of human parainfluenza type 3 virus in insect cells by a recombinant baculovirus and analysis of its immunogenic property. Virus Research, 12, 169-180.

13. Z. Moldoveneanu, J.K. Stass, R.M. Gilley, **R. Ray**, R. W. Compans, J. H. Eldridge, T.R. Tice, and J. Mestecky. 1989. Immune responses to influenza virus in orally and systematically immunized mice (J. Mestecky and J.R. McGhee eds.) Current Topics in Microbiology and Immunology. New Strategies for Oral Immunization. pp. 91-99. Springer-Verlag, Heidelberg, West Germany.

14. Yumiko Matsuoka, **Ranjit Ray** and Richard W. Compans. 1990. Sequence of the hemagglutinin-neuraminidase gene of human parainfluenza virus type 1. Virus Research, 16, 107-114.

15. **Ranjit Ray** and Richard W. Compans. 1990. Immunochemistry of paramyxoviruses (M.V.H. Van Regenmortel and A.R. Neurath Eds.) Immunochemistry of Viruses II. pp. 215-234. Elsevier Biomedical Press, Amsterdam.

16. **Ranjit Ray**, Laurent Roux and Richard W. Compans. 1991. Intracellular targeting and assembly of paramyxovirus proteins (David Kingsbury ed.) Paramyxovirus. pp. 457-479. Plenum Press.

17. **Ranjit Ray**, Yumiko Matsuoka, Tracie L. Burnett, Brenda J. Glaze, and Richard W. Compans. 1990. Human parainfluenza induces a type specific protective immune response. J. Infect. Dis., 162, 746-749.

18. Xiaolei Hu, Richard W. Compans, Yumiko Matsuoka and **Ranjit Ray**. 1990. Molecular cloning and sequence analysis of the fusion glycoprotein gene of human parainfluenza virus type 2. Virology, 172, 915-920.

19. Yumiko Matsuoka and **Ranjit Ray**. 1991. Sequence analysis and expression of the human

parainfaluenza type 1 virus nucleoprotein gene. Virology, 181, 403-407.

20. Yumiko Matsuoka, Joseph Curran, Thierry Pelet, Daniel Kolakofsky, **Ranjit Ray** and Richard W. Compans. 1991. The P gene of human parainfluenza virus type 1 encodes P, and C proteins but not a cysteine-rich V protein. J. Virol., 65, 3406-3410.

21. Xiaolei, Hu, **Ranjit Ray** and Richard W. Compans. 1992. Functional interactions between the fusion protein and heamagglutinin-neuraminidase of human parainfluenza viruses. J. Virol., 66, 1528-1534.

22. **Ranjit Ray**, Jackie D. Wells, and Yumiko Matsuoka. 1992. Distinct Hemagglutin and neuraminidase epitopes involved in antigenic variation of recent human parainfluenza virus type 2 isolates. Virus Research, 24, 107-113.

23. **Ranjit Ray**, Rakesh Aggarwal, P.N. Salunke, N.N. Mehrotra, G.P. Talwar and S.R. Naik. 1991. Demonstration of hepatitis E virus (HEV) genome in stools of hepatitis patients during a large epidemic in north India. Lancet, 338, 783-784.

24. Ratna Ray, Shahid Jameel, Venkatasamy, Manivel and **Ranjit Ray**. 1992. Indian hepatitis E virus shows a major deletion in the small open reading frame. Virology, 189, 359-362.

25. G.P.Talwar, K. Banerjee, P.P. Reddi, M. Sharma, A. Qadri, S.K. Gupta, R. Mukherjee, **R. Ray**, S, Ghosh, N. Deka, M.D. Sharma, K. Aparna and P.S. Khandekar. 1992. Diagnostics for the tropical countries. J. Immunol. Methods, 150, 121-132.

26. **Ranjit Ray**, Miroslav Novak, Jacqueline D. Duncan, Yumiko Matsuoka and Richard W. Compans. 1993. Microencapsulated human parainfluenza virus induces a protective immune response. J. Infect. Dis., 167, 752-755.

27. G.P. Talwar, S.K. Gupta, M. Sharma, A. Qadri, P. Reddi, K. Banerjee, P. K. Khandekar, R. Mukherjee and **R. Ray**. 1993. "For Diagnostics in the year 2000", Van Nostrand Reinhold, New York.

28. **Ranjit Ray**. 1994. Hepatitis E: The major causative agent for viral hepatitis in India. (Talwar. G.P., Rao, K.V.S. and Chauhan, V.S. eds.) Recombinant and Synthetic Vaccines. Narosa Publishing House, New Delhi, pp. 69-73.

29. Aparna Khanna, S. R. Naik, S. P. Thyagarajan, G. P. Talwar and **Ranjit Ray**. 1994. Seroreactivity and genomic amplification profile of hepatitis C virus from patients with chronic liver disease in India. Am. J. Med. Sci. 307, 144-150.

30. Kelly Henrickson, **Ranjit Ray**, and Robert B. Belshe. 1994. Parainfluenza Virus. (Mandell, G.L., Douglas, R.G., Bennett, J.E. eds.) Principals and Practice of Infectious Diseases, 4th Edition. Churchill and Livingstone, New York, pp 177-184.

31. **Ranjit Ray**, Aparna Khanna, L. Martin Lagging, Keith Meyer, Qui-Lim Choo, Robert Ralston, Michael Houghton, and Paul R. Becherer. 1994. Peptide immunogen mimicry of putative E1 glycoprotein specific epitopes in hepatitis C virus. J. Virology, 68(7), 4420-

4426.

32. **Ranjit Ray**, Keith Meyer, Frances K. Newman and Robert B. Belshe. 1995. Characterization of a live attenuated human parainfluenza type 3 virus candidate vaccine strain. J. Virology, 69, 1959-1963.

33. Aparna Khanna and **Ranjit Ray**. 1995. Hepatitis C virus core protein: synthesis, affinity purification, and immunoreactivity with infected human sera. Gene, 153, 185-189.

34. L. Martin Lagging, Keith Meyer, Daniel Hoft, Michael Houghton, Robert B. Belshe and **Ranjit Ray**. 1995. Immune responses to plasmid DNA encoding the hepatitis C virus core protein. J. Virology, 69, 5859-5863.

35. Ratna B. Ray, L. Martin Lagging, Keith Meyer, Robert Steele and **Ranjit Ray**. 1995. Transcriptional regulation of cellular and viral promoters by the hepatitis C virus core protein. Virus Research, 37, 209-220.

36. **Ranjit Ray**, Mark S. Galinski, Beverly R. Heminway, Keith Meyer, Frances K. Newman, and Robert B. Belshe. 1996. Temperature-sensitive phenotype of the human parainfluenza virus type 3 candidate vaccine strain (cp45) correlates with a defect in the L gene. J. Virol. 70, 580-584.

37. Ratna B. Ray, L. Martin Lagging, Keith Meyer and **Ranjit Ray**. 1996. Hepatitis C virus core protein cooperates with ras and transform primary rat embryo fibroblasts to tumorigenic phenotype. J. Virol., 70, 4438-4443.

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virus enhances proinflammatory cytokines and protective immune response. J. Virol. 2022 Jun 22;96(12):e0052322. PMCID: PMC9215226

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promotes helper CXCR5^{+}T cells. J. Virology, October 2025 Volume 99 Issue 10 e01355-25. https://doi.org/10.1128/jvi.01355-25

164. Preedia Babu, Yuki Haga, **Ranjit Ray**. Hepatitis C virus E1 protein specific linear B-cell epitopes, pan-genotype reactivity and functional relevance (submitted for publication).

List of published work in my bibliography (from 163 publications)

http://www.ncbi.nlm.nih.gov/sites/myncbi/ranjit.ray.1/bibliography/40762063/public/?sort=date&direction=ascending

Contact

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Room 823

SYNOPSIS OF MY RESEARCH WORK:

My laboratory worked on various aspects of respiratory and hepatitis viruses for more than 29 years. Currently, we are focusing on hepatitis C virus (HCV) as a major area of research. My laboratory first reported on the pleotropic functions and oncogenic potential of HCV core protein. We worked on understanding host-virus interactions and HCV entry employing pseudotypes. We have defined the role of glycosaminoglycans on hepatocytes as an attachment receptor of HCV. We have shown HCV genotype 1a growth in immortalized human hepatocytes and demonstrated that HCV induces autophagy in infected hepatocytes. We examined several mechanistic aspects of HCV associated pathogenesis, and immune responses to HCV infection. Our laboratory-based research activities were primarily funded by NIH, and we also participated in several ancillary studies on multicenter initiated projects including: The Hepatitis C Antiviral Long-term Treatment against Cirrhosis (HALT-C, funded by NIDDK), Vaccine Development studies (funded by NIAID and NIDDK), and Midwest Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research (MRCE, funded by NIAID).

PATENTS:

1. U.S. Patent Number: 4790987: Viral Glycoprotein subunit Vaccine.

2. U.S. Patent No. 5427782: Intranasal Immunization against Viral Infection Using Viral Glycoprotein Subunit Vaccine.

3. U.S. Patent No. 5869036: Live Attenuated Vaccines Based on C45 HPIV-3 Strain and Method to Ensure Attenuation in such Vaccine.

4. U.S. Patent No.7232893B2: Method of Manufacturing Stellate Cell Death Factor.

5. U.S. patent application was filed on January 27, 2023, and is identified by U.S. Patent Serial No. 18/160,926. The title is Hepatitis C Virus Modified E2 Glycoprotein and Uses Thereof as Vaccines.

MENTORING PHD CANDIDATES:

1. Xiaolei Hu (Co-mentor with Richard W. Compans). Studies on paramyxoviruses. University of Alabama at Birmingham, 1993.
2. Aparna Khanna (Mentor). Studies on hepatitis C virus. National Institute of Immunology, PhD. Thesis submitted to Jawaharlal Nehru University, Delhi, 1994.
3. Martin Lagging (Mentor). Thesis entitled "Hepatitis C virus: Aspects on natural history, antibody response, and viral quantification". Saint Louis University & Goteborg University, Sweden, 2002.
4. Aster Beyene (co-mentor with Mats Persson). Thesis entitled "Studies of the hepatitis C virus envelope proteins: Interaction with host cells and as targets for the humoral response. Karolinska Institutet, Stockholm, Sweden, 2004.
5. Sandip K. Bose (Mentor). Thesis entitled "Molecular mechanisms for hepatitis C virus mediated liver disease progression". Saint Louis University, 2010-2014.

MENTORING PRE-/POST-DOCTORAL CANDIDATES:

1. Xiaolei Hu (1987-1991)
2. Martin Lagging (1994-1996)
3. Aster Beyene (1995-1998)
4. Arnab Basu (2003-2007)
5. Kousuoke Saito (2005-2007)
6. Sutapa Banerjee (2007-2008)
7. Malika Ait-Goughoulte (2007-2009)
8. Arup Banerjee (2008- 2011)
9. Sandip K. Bose (2010-2014)
10. Budhaditya Majumdar (2009-2012)
11. Hangeun Kim (2010-2013)
12. Young-Chan Kwon (2013-2016)
13. Reina Sasaki (2016-2020)
14. Avik Biswas (2016-2017)

15. Tapas Patra (2018-present)
16. Vijayamantesh (2020-2022)
17. Yuki Haga (2022-2025)
18. Preedia Babu (2024-present)

OTHER ACDEMIC ACTIVITIES:

1. PhD thesis committee member for students
2. Teach Advanced Virology Course
3. Research Planning Committee member of the Department of Internal Medicine
4. Interview MD, PhD students for admission
5. Research Conference Course Director (Offered AMA PRA Category 1 Credits for live regularly Schedules/Conferences in the Division until November 2014).

6. **Executive Committee Member of the Faculty (July 2015- June 2021)**

The function of this committee is to serve as an advisory and consultative body to the Dean, particularly to make recommendations regarding the matriculation, promotion, and graduation of medical students; faculty appointments, promotion and tenure; the creation of new departments; and the appointment of deans and department chairs.

7. **Member of the SLU School of Medicine Credential and Promotion Committee (July 2015- June 2021)**

8. Member of Wellness Committee, School of Medicine (2021 -2022)

9. Member of the SLU Faculty Senate. (2023-2025)

SUMMARY OF RESEARCH EXPERIENCE:

Over the last 25 years I have had the opportunity to acquire extensive knowledge on Molecular Virology.

I initiated research on various aspects of respiratory viruses and the potential use of viral envelope glycoproteins as a subunit vaccine. We have made significant contributions in the advancement of basic knowledge on human paramyxovirus biology.

Subsequently, I initiated research on various aspects of hepatitis viruses. Currently, I am emphasizing my work on diverse aspects of hepatitis C virus. I contributed significantly to understanding the molecular mechanisms of hepatitis C virus entry, host defense, and pathogenesis.

I also worked for a short time on the molecular basis of Ebola virus and Zika virus related pathogenesis.

FUTURE RESEARCH PLAN:

I wish to continue working on the areas of Molecular Virology, Cell Biology, Virus-Host interactions, and Immunology. I may get involved with additional human viral pathogens depending on their importance to human health and the resources available to me.