

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Burdwan University, West Bengal, India	B.Sc. Honors) [Ranked First]	1990	PHYSIOLOGY [HONORS], CHEMISTRY, ZOOLOGY
Vidyasagar University, West Bengal, India	M.Sc.	1992	HUMAN PHYSIOLOGY
Calcutta University, India (National Institute of Cholera & Enteric Diseases, Calcutta)	Ph.D.	1999	MICROBIAL PATHOGENESIS
Meharry Medical College, Nashville, TN, USA	Postdoctoral	1999-2001	MOLECULAR VIROLOGY (Alphavirus Biology)
University of Massachusetts Medical School, Worcester, MA, USA	Postdoctoral	2001-2003	MOLECULAR VIROLOGY (HIV)
University of Massachusetts Medical School, Worcester, MA, USA	Instructor /Non-Tenured Faculty	2004-2005	MOLECULAR VIROLOGY (HIV)

Positions held

1999 -2001:	Postdoctoral Research Associate , Department of Microbiology, Meharry Medical College, Nashville, TN 37208, USA. <i>Field of Study: Template interaction in Alphavirus replication.</i>
2002-2003:	Senior Postdoctoral Research Associate in the Department of Molecular Medicine, University of Massachusetts Medical School, Worcester, MA 01605, USA. <i>Field of Study: HIV Pathogenesis.</i>
2004-2005:	Instructor (Non-tenured track faculty) in the Department of Molecular Medicine, University of Massachusetts Medical School, Worcester, MA 01605, USA. <i>Field of Study: HIV Pathogenesis.</i>
2006-2010:	Assistant Director and Head , Division of Molecular Virology at the National AIDS Research Institute , Indian Council of Medical Research, Pune, India.
2010-2012:	Deputy Director and Head , Division of Molecular Virology at the National AIDS Research Institute , Indian Council of Medical Research, Pune, India.
2013-2014:	Principal Scientist-I & Principal Investigator , International AIDS Vaccine Initiative, THSTI-IAVI HIV Vaccine Design Program, Translational Health and Technology Institute (THSTI), Gurgaon, Haryana
2014-2017 September:	Principal Scientist-II & Principal Investigator , International AIDS Vaccine Initiative, THSTI-IAVI HIV Vaccine Design Program, Translational Health and Technology Institute (THSTI), NCR Biotech Science Cluster, Faridabad, Haryana.
2017 Oct - 2020 March:	Associate Director , International AIDS Vaccine Initiative, Principal Investigator , India Lab, Translational Health and Technology Institute (THSTI), NCR Biotech Science Cluster, Faridabad, Haryana.
17 Sept 2019- Present:	Adjunct Faculty , Translational Health Science & Technology Institute, Department of Biotechnology, NCR Biotech Science Cluster, Faridabad, Haryana.
2020 April - Present:	Director , International AIDS Vaccine Initiative, Principal Investigator , India Lab, Translational Health and Technology Institute (THSTI), NCR Biotech Science Cluster, Faridabad, Haryana.

Member of Professional Bodies

1. Invited member, DST-SERB Health Science Task Force, December 2018, New Delhi.
2. Member, Joint Committee (India-South Africa Collaboration), Department of Science & Technology, Govt of India (2017)
3. Member, National Academy of Sciences, Allahabad, India (since 2014)
4. Past Member, Task Force (Infectious Disease Biology Study Section), Department of Biotechnology, Govt of India (2012-2013)
5. Member, Scientific Advisory Board, Premier Medical Corporation Ltd., Nani Daman, Gujarat.
6. Member, American Society of Microbiology
7. Life member, Physiological Society of India

Editorial Board Member

1. Academic Editor and Member of the Editorial Board, *PLoS One*, Public Library of Science, USA
2. Associate Editor & Senior Editorial Management Team, *Therapeutic Advances in Vaccines*, SAGE Publications Ltd, London, UK
3. Section Editor & Senior Editorial Board Member, *VirusDisease*, Springer Publications Inc.

Honors and Awards:

1. **Member, National Selection Committee**, United States-India Educational Foundation (USIEF) – the Fulbright Commission in India, New Delhi (2019).
2. Chief Guest & Faculty, Manipal College of Pharmaceutical Sciences, Kasturba Medical College, Manipal Academy of Higher Education, Manipal University (Dept of Health Research & ICMR sponsored National Level Workshop on Clinical and Translational Research for Precision Medicine, 5-6th December, 2019).
3. **Member, Review Board**, NIHR Global Health Policy and Systems Research, UK (<https://www.nihr.ac.uk/>).
4. **Reviewer** (2019), Scheme for Transformational and Advanced Research in Sciences (STARS), Ministry of Human Resource Development (MHRD), Department of Higher Education Science Bureau, Govt of India, being implemented by the Indian Institute of Science, Bengaluru, Karnataka 560012.
5. **Member**, IAVI global key influencer group (2018-onward)
6. **Chairperson**, THSTI Purchase Sub-Specification Committee
7. **Chairperson**, Scientist Recruitment for ICMR Institution, 2019
8. **Member**, Expert Committee, constituted by DBT to review proposal of CCBT, inSTEM, Bengaluru 19 February, 2019.
9. **Special Invitee**, DST-SERB Task Force Meeting, New Delhi (ICGEB); 21-22 December, 2018.
10. **MVP Award** from the International AIDS Vaccine Initiative, New York, USA, July, 2018
11. Recognition by IAVI as **Key Influencer** of the organization by the CEO, IAVI, Dr Mark Feinberg.
12. **MVP Award** from the International AIDS Vaccine Initiative, New York, USA, October, 2017
13. Member, Joint Committee on S&T Cooperation (Indo-South Africa Bilateral Collaboration), Department of Science & Technology, Govt. of India in 2017.
14. 'On the Spot Award of Excellence', by the International AIDS Vaccine Initiative, New York, USA, February, 2015
15. **Member, National Academy of Science (MNASc.), India (Allahabad), 2014.**
16. **National Bioscience Award for Career Development, 2013, Ministry of Science and Technology, Govt. of India.**
17. **Member**, DBT Infectious Disease Biology Task Force (2012-2013)
18. Member, Advisory Board, Premier Medical Corporation, 2015, Gujarat
19. **Chairperson**, IMAPAC 5th Annual Vaccine World India Summit, Pune, March 2015
20. International Travel Award/Fellowship: International AIDS Vaccine Conference, Cape Town, South Africa, 2008.
21. **Visiting Scholar**, Duke University, Durham, North Carolina, USA (July-August, 2007)
22. **Research Fellowship Grant Award from The American Foundation for AIDS Research (amfAR), USA, 2004-2006.**
23. **UNESCO-ASM Visiting Resource Person Program Award, 2005.**
24. Travel Grant Award 11th Conference on Retrovirus & Opportunistic infection, San Francisco, CA, USA 2004.
25. Travel Grant Award 12th Conference on Retrovirus & Opportunistic infection, Boston, MA, USA, 2005
26. Prof. P.B. Sen Memorial award from The Physiological Society of India (1998).
27. Senior and Junior Research Fellowships from Indian Council of Medical Research (1993-1998).
28. Prof Arun Sen Award for ranking FIRST in B.Sc. (Honors), Burdwan University, 1989.

Academic Affiliations

1. Adjunct Faculty Member, THSTI, Faridabad, Haryana (Sept 2017-onwards).
2. Supervised/Guided of Doctoral (PhD) Fellows: 5 graduate students Co-Guide: 1 graduate student

3. Recognized Post-Graduate Teacher and Research Guide under Departments of Biotechnology, Microbiology and Health Science, University of Pune
4. Recognized PhD Guide: Pune University and Maharashtra University of Health Sciences
5. Faculty for M.Sc. Virology, University of Pune, India
6. Member (External), Mentoring Committee, Rajiv Gandhi Center for Biotechnology, Thiruvananthapuram, Kerala.
7. Ad-hoc reviewer of AIDS Research & Human Retroviruses (Mary Ann Liebert Inc., USA), HIV & AIDS Review (Elsevier publication), Archives of Virology, Journal of General Virology, Future Virology, PLoS One Ad-hoc reviewer of application for DBT grants.
8. Reviewer ICMR STS (Short term Studentship) Applications 2010
9. Recognized mentor for JNCASR, Bangalore, summer studentship.

Patents and Inventions / Intellectual Properties

1. Provisional Patent Application Filed by THSTI
Partners: THSTI, IAVI, YRGCARE
Name of the Invention: Engineered HIV-1 envelope immunogen
Application number: 201911036660
Filing date: 12/09/2019
Inventors: J. Bhattacharya (IAVI), R. Kumar (THSTI), S. Deshpande (THSTI), V. Kumar (THSTI), K.G Murugavel (YRGCARE)
1. Provisional Patent Application Filed by THSTI
Partners: THSTI, YRGCARE
Application reference number: 201611004727
Name of the invention: ISOLATED NUCLEOTIDE SEQUENCE USEFUL FOR THE PREVENTION OF HIV-1 INFECTION
Filing date: February 10, 2016
Inventors: Jayanta Bhattacharya (IAVI), Suprit Deshpande (THSTI), Shilpa Patil (THSTI), Rajesh Kumar (THSTI), K.G. Murugavel (THSTI)
2. Provisional Patent Application Filed by THSTI
Partners: THSTI, IAVI
Application reference No: 201711016548
Filing date:
Name of the invention: Engineered Recombinant Protein Antigen of Trimeric Mimic of HIV-1 Envelope Glycoprotein Spike
Filing date: 2017
Inventors: Jayanta Bhattacharya (IAVI), Rajesh Kumar (THSTI), Vivek Kumar Yadav (THSTI), Shilpa Patil (THSTI)
3. International Publication Reference No: WO 2017/007646 A1
Partners: THSTI, IAVI
International Publication Reference No: WO 2017/007646 A1
International Publication Date: 12 January 2017
Name of the invention: HIV-1 CLADE C ENVELOPE GLYCOPROTEINS
Filing date: 29 June 2016
International application ref no: PCT/US2016/039936
Inventors: Jayanta Bhattacharya (IAVI), Suprit Deshpande (THSTI), Shilpa Patil (THSTI), Bimal K Chakrabarti (IAVI)
4. International Publication Reference No: WO 2016/065252 A2
Partners: THSTI, IAVI
International Publication Reference No: WO 2016/065252 A2
International Publication Date: 28 April 2016
Name of the invention: NATIVE TRIMERIC ENV IMMUNOGEN DESIGN
Filing date: 23 October 2015
International application ref no: PCT/US20 15/057098
Inventors: Bimal K Chakrabarti (IAVI), Saikat Boliar (THSTI), Supratik Das (THSTI), Tripti Srivastava (THSTI), Charles Richter King (IAVI), Jayanta Bhattacharya (IAVI), Sweetey Samal (THSTI),

Editorial & Book Article

1. Ambrose CS, **Bhattacharya J**, Fox CB, McIntosh ED, Stern PL. *Therapeutic Advances in Vaccines*. 2013 SAGE Publication, London, UK. May; 1(1):3-5. doi: 10.1177/2051013613486264.
2. **Bhattacharya, Jayanta**. Unconventional technologies accelerating HIV Vaccine Discovery. *Spinco Biotech CuttingEdge* Newsletter. September 2015: page 22-24.

Publications

(* denotes 'Corresponding author')

- 1) Sutar, J., Padwal, V., Sonawani, A., Nagar, V., Patil, P, Kulkarni, B., Hingankar, N., Deshpande, S., Idicula-Thomas, S., Jagtap, J., **Bhattacharya, J.**, Bandivdekar, A., Patel, V. (2019). Effect of diversity in gp41 membrane proximal external region of primary HIV-1 Indian subtype C sequences on interaction with broadly neutralizing antibodies 4E10 and 10E8. *Virus Res.* 273: 197763.
- 2) Pergu, R., Dagar, S., Kumar, H., Kumar, R., **Bhattacharya, J.**, and Mylavarapu, SVS (2019). The chaperone ERp29 is required for tunneling nanotube formation by stabilizing MSec. *J Biol. Chem.* May 3;294(18):7177-7193.
- 3) **Bhattacharya, J.** (2019). HIV prevention & treatment strategies - Current challenges & future prospects (EDITORIAL). *Indian J Med Res.* 148, December 2018, pp: 671-674
- 4) Kumar, R., Qureshi, H., Deshpande, S., **Bhattacharya, J*** (2018). Broadly neutralizing antibodies in HIV-1 treatment and prevention. *Therapeutic Advances in Vaccines and Immunotherapy* 6 (4): 61-68.
- 5) Das, S.*, Bansal, M., **Bhattacharya, J.** (2018). Characterization of the membrane-bound form of the chimeric, B/C recombinant HIV-1 Env, LT5.J4b12C. *J Gen. Virol* 99 (10): 1438-1443
- 6) Paneerselvam, N., **Bhattacharya, J.**, Srikrishnan, A.K., Goyal, R., Ravichandran, S.C., Patil, S., Saravanan, S., Deshpande, S., Ramachandran, V., Solomon, S.S., Singla, N., Mukherjee, J., Murugavel, K.G. (2018). Broad Neutralization Response in a Subset of HIV-1 Subtype C infected Viremic Non-Progressors from Southern India. *J Gen. Virol.* 99: 379-393
- 7) Kumar, R., Ozorowski, G., Kumar, V., Holden, L., Shrivastava, T., Patil, S., Deshpande, S., Ward, A.B., **Bhattacharya, J***. (2017). Characterization of a stable HIV-1 B/C recombinant, soluble and trimeric envelope glycoprotein (Env) highly resistant to CD4-induced conformational changes. *Journal of Biological Chemistry.* 292 (38): 15849-15858
- 8) Qureshi, H. and Bhattacharya, J.* (2017). Dual immunity concomitantly suppresses HIV-1 progression. *Trends in Microbiol.* 25 (5): 334-335.
- 9) Khan, L., Kumar, R., Thiruvengadam, R., Parray, H.A., Makhdoomi, M.A., Kumar, S., Aggarwal, H., Mohata, M., Hussain, A.W., Das, R., Varadarajan, R., **Bhattacharya, J.**, Vajpayee, M., Murugavel, K.G., Solomon, S., Sinha, S., Luthra, K.* (2017). Cross-neutralizing anti-HIV-1 human single chain variable fragments (scFvs) against CD4 binding site and N332 glycan identified from a recombinant phage library. *Scientific Reports.* Mar 23; 7: 45163.
- 10) Deshpande, S., Patil, S., Kumar, R., Shrivastava, T., Srikrishnan, A.K., Murugavel, K.G., Koff, W.C., Chakrabarti, B.K., **Bhattacharya, J***. (2016). Association of mutations in V3/C3 domain with enhanced sensitivity of HIV-1 clade C primary envelopes to autologous broadly neutralizing plasma antibodies. *Retrovirology* 13: 41
- 11) Deshpande, S., Patil, S., Kumar, R., Hermanus, T., Murugavel, K.G., Solomon, S., Morris, L., **Bhattacharya, J***. (2016) HIV-1 clade C escapes broadly neutralizing autologous antibodies with N332 glycan specificity by distinct mechanisms. *Retrovirology* 30;13(1):60
- 12) Patil, S., Kumar, R., Deshpande, S., Samal, S., Shrivastava, T., Boliar, S., Bansal, M., Chaudhary, N.K., Srikrishnan, A.K., Murugavel, K.G., Solomon, S., Simek, M., Koff, W.C., Goyal, R., Chakrabarti, B.K., **Bhattacharya, J*** (2016). Conformational Epitope-Specific Broadly Neutralizing Plasma Antibodies Obtained from an HIV-1 Clade C Infected Elite Neutralizer Mediate Autologous Virus Escape through Novel Mutations in V1 Loop. *Journal of Virology* 90 (7): 3446-3457.
- 13) Khan, L., Makhdoomi, M.A., Kumar S., Nair, A., Andrabi, R., Clark, B.E., Auyeung, K., **Bhattacharya, J.**, Vajpayee, M., Wig, N., Pantophlet, R., Luthra, K. (2015). Identification of CD4-binding site dependent plasma neutralizing antibodies in an HIV-1 infected Indian individual *PLoS One* 10(5):e0125575
- 14) Boliar S, Das, S., Bansal, M., Shukla, B.N., Patil, S., Shrivastava, T., Samal, S., Goswami, S., King, C.R., **Bhattacharya, J.**, Bimal K Chakrabarti (2015). An efficiently cleaved HIV-1 clade C Env selectively binds to neutralizing antibodies. *PLoS One* 10(3): e0122443
- 15) SV Kulkarni, M Bala, **J Bhattacharya**, A Risbud. (2015). Detection of mutations in mtrR gene in quinolone resistant strains of *N.gonorrhoeae* isolated from India. *Indian Journal of Medical Microbiology*, 33(2): 277-281
- 16) Patil, S., Choudhary, I., Chaudhary, N., Ringe, R, Bansal, M, Shukla, B.N., Boliar, S., Chakrabarti, B.K., and **Bhattacharya, J*** (2014). Determinants in V2C2 region of HIV-1 clade C primary envelopes conferred altered neutralization susceptibilities to IgG1b12 and PG9 monoclonal antibodies in context dependent manner. *Virology* 462-463: 266-272
- 17) Tilghman MW, **Bhattacharya J.**, Deshpande S, Ghate M, Espitia S, Grant I, Marcotte TD, Smith D, Mehendale S. (2014). Genetic attributes of blood-derived subtype-C HIV-1 tat and env in India and neurocognitive function. *J Med Virol.* 86(1): 88-96
- 18) Mahajan S.D, Gaekwad A, Pawar J, Tripathy S, Ghate M, **Bhattacharya J**, Singh HO, Schwartz SA, Paranjape R, Gangakhedkar R. (2014). Cardiac Morbidity in an HIV-1 Lipodystrophy Patient Cohort Expressing the TNF- α -238 G/A Single Nucleotide Gene Polymorphism. *Curr HIV Res.* 13: 98-108

- 19) Ringe, R. and **Bhattacharya, J.*** (2013). Preventive and therapeutic applications of neutralizing antibodies to Human Immunodeficiency Virus Type 1. *Therapeutic Adv in Vaccines*. 1: 67-80
- 20) Gautam, A. and **Bhattacharya, J.***(2013). Evidence that Vpu Modulates HIV-1 Gag-Envelope Interaction towards Envelope Incorporation and Infectivity in a Cell Type Dependent Manner. *PLoS One* 8(4): e61388
- 21) Ghate M, Tripathy S, Gangakhedkar R, Thakar M, **Bhattacharya J**, Choudhury I, Risbud A, Bembalkar S, Kadam D, Rewari BB, Paranjape R. (2013). Use of first line antiretroviral therapy from a free ART programme clinic in Pune, India - A preliminary report. *Indian J Medical Research* 137(5):942-9
- 22) Choudhary, I., Chimanpure, V., Patil, A., and **Bhattacharya, J.*** (2013). Single step detection of HIV-1 proviral DNA and housekeeping β -actin gene from dried blood spots by multiplex polymerase chain reaction. *J Virol Methods* 187: 203-206.
- 23) Kulkarni S, Bala M, Sane S, Pandey S, **Bhattacharya J**, Risbud A. (2012). Mutations in the gyrA and parC genes of quinolone-resistant *Neisseria gonorrhoeae* isolates in India. *Int J Antimicrob Agents*. 40(6):549-53
- 24) Patil, A. and **Bhattacharya, J.*** (2012). Natural deletion of L35Y36 in p6 gag eliminate LYPXnL/ALIX auxiliary virus release pathway in HIV-1 subtype C. *Virus Research* 170: 154-158
- 25) Gautam, A.*, Patil, A. and **Bhattacharya, J.** (2012). Gag-Vpu cross talk modulating HIV-1 envelope incorporation and infectivity in cell-type dependent manner. *BMC Infectious Diseases* 12 (Suppl 1): P49
- 26) Ringe, R., Das, L., Choudhury, I., Sharma, D., Paranjape, R., Chauhan, V.S., and **Bhattacharya, J.*** (2012). Unique sequence pattern in the C2V3 region in HIV-1 envelope obtained from broadly neutralizing plasma of an antiretroviral naïve chronically infected patient conferred enhanced neutralization by exposition of discontinuous neutralizing epitopes. *PLoS One* 7(10):e46713.
- 27) Ringe, R., and **Bhattacharya, J.*** (2012). Association of enhanced HIV-1 neutralization by a single residue substitution in gp41 with increased gp120-CD4 interaction and macrophage infectivity. *PLoS One* 7(5): e37157
- 28) Ringe, R., Phogat, S. and **Bhattacharya, J.*** (2012). Subtle alteration of residues including N-linked glycans in V2 loop modulates HIV-1 neutralization by PG9 and PG16 monoclonal antibodies. *Virology* 426: 34–41
- 29) Gharu, L., Ringe, R., and **Bhattacharya, J.*** (2012). Evidence of extended alternate coreceptor usage by HIV-1 clade C envelope obtained from an Indian patient. *Virus Research* 163 (2012) 410–414
- 30) Ringe, R., Sharma, D., Zolla-Pazner, S., Phogat, S., Risbud, A., Thakar, M., Paranjape, R and **Bhattacharya, J.*** (2011) A single amino acid substitution in the C4 region in gp120 confers enhanced neutralization of HIV-1 by modulating CD4 binding sites and V3 loop, *Virology* 418: 123–132
- 31) Gharu, L., Ringe, R., and **Bhattacharya, J.*** (2011). HIV-1 clade C envelopes obtained from late stage symptomatic Indian patients varied in their ability towards relative CD4 usages and sensitivity to CCR5 antagonist TAK-779. *Virus Research* 158: 216–224
- 32) Mukhopadhyay, S., Ringe, R., Patil, A., Paranjape, R and **Bhattacharya, J.*** (2011) Characterization of circulating HIV-1 env genes in plasma of two antiretroviral naïve slow progressing patients with broad neutralizing antibody response with evidence of recombination. *AIDS Res Human Retroviruses* 28(7):739-45.
- 33) Jadhav, S., Tripathy, S., Kulkarni, S., Chaturbhuj, D., Ghare, R., **Bhattacharya, J.*** and Paranjape, R. (2011) Genetic conservation in gp36 transmembrane sequences of Indian HIV-2 isolates. *AIDS Res Human Retroviruses* (May 19. [Epub ahead of print] PMID: 21453135)
- 34) Gharu, L., Ringe, R., Anupindi S., Patil, A and **Bhattacharya, J.*** (2011). Evidence of HIV-1 clade C env clones containing low V3 loop charge obtained from an AIDS patient in India that uses CXCR6 and CCR8 for entry in addition to CCR5. *AIDS Res Human Retroviruses* 27 (2): 211-219
- 35) Ringe, R., Thakar, M. and **Bhattacharya, J.*** (2010). Variations in autologous neutralization and CD4 dependence of b12 resistant HIV-1 clade 1 C env clones obtained at different time points from antiretroviral naïve Indian patients with recent infection. *Retrovirology* 7:76
- 36) Sharma, D. and **Bhattacharya, J.*** (2010) Evolutionary constraints acting on DDX3X protein potentially interferes with Rev-mediated nuclear export of HIV-1 RNA. *PLoS One* 5(3): e9613.
- 37) Patil, A., Gautam, A and **Bhattacharya, J.*** (2010) Evidence that Gag facilitates HIV-1 envelope association both in GPI-enriched plasma membrane and detergent resistant membranes and facilitates envelope incorporation onto virions in primary CD4+ T cells. *Virology J* 7: 3
- 38) Sharma, D. and **Bhattacharya, J.*** (2009). Dynamics of evolution of HIV-1 Rev binding host factors with their predicted role in HIV associated neuropathogenesis. *Journal of Neurovirology*, 15 (Supplementary 1): 88-89 (DOI: 10.1080/13550280903016074)
- 39) Gharu, L., Ringe, R., Pandey, S., Paranjape, S., and **Bhattacharya, J.*** (2009). HIV-1 clade C env clones obtained from an Indian patient exhibiting expanded coreceptor tropism are presented with naturally occurring unusual amino acid substitutions in V3 loop. *Virus Research* 144:306-314.
- 40) Sharma, D and **Bhattacharya, J.*** (2009). Cellular and Molecular Basis of HIV-Associated Neuropathogenesis. *Indian Journal of Medical Research* 129: 637-651
- 41) Ringe, R., Gharu, R., Satyakumar, A., Pandey, S., Thakar, M. and **Bhattacharya, J.*** (2008). Genetic and Neutralization Properties of HIV-1 India Clade C Envelope in Recent Infection: Correlation with CCR5 Usage and Clonal Divergence. *AIDS Res Human Retrovirus* 24 Supplement 1: 33-33. (DOI: 10.1089/aid.2008.9997a).
- 42) The Six Week Extended Dose Nevirapine (SWEN) Study Team (2008). Extended Dose of Nevirapine to Six Weeks of Age for Infants in Ethiopia, India and Uganda: A Randomized Trial for Prevention of HIV Transmission through Breastfeeding. *Lancet* 372: 300-313

- 43) Lakhashe, S., Tripathy, S.P., Paranjape, R.S. and **Bhattacharya, J.*** (2008). Evidence of a Novel B/C Recombinant Exhibiting Unique Breakpoints of Nearly Full Length HIV-1 Genome in North Eastern India. *AIDS Res Human Retroviruses* 24 (2): 229-234
- 44) Lakhashe, S., Tripathy, S.P., Paranjape, R.S. and **Bhattacharya, J.*** (2008). Characterization of B/C Recombinants of Nearly Full Length HIV-1 in North Eastern India with Mosaics Identical to ARE195FL but with a Different Ancestral Origin. *AIDS Res Human Retroviruses* 24 (1): 92-99
- 45) Peters P.J., Sullivan, W.M, Duenas Decamp, M., **Bhattacharya, J.**, Ankghuambom, C., Brown, R., Luzuriaga, K., Bell, J., Simmonds, P., Ball, J and Clapham, P.R. (2006). Macrophage-tropic R5 envelopes are infrequent in blood, lymph nodes and semen: Implications for transmission and pathogenesis. *Journal of Virology* 80: 6324-6332
- 46) **Bhattacharya, J.**, Repik, A. and Clapham, P.R. (2006). Gag regulates Human Immunodeficiency virus type 1 envelope association with detergent resistant membranes. *Journal of Virology* 80: 5292-5300
- 47) **Bhattacharya, J.**, Peters, P.J., and Clapham, P.R. (2004). Human Immunodeficiency virus type 1 envelope glycoproteins that lack cytoplasmic domain cysteines: Impact on association with membrane lipid rafts and incorporation onto budding virus particles. *Journal of Virology*, 8: 5500-5506.
- 48) **Bhattacharya, J.*** Peters, P.J.,* Hibbitts, S.,* Dittmar, M.T., Simmons, G.S, Bell, J., Simmonds, P.S. and Clapham, P.R. (2004). Biological analysis of HIV-R5 envelopes amplified from brain and lymph node tissue of AIDS patients with neuropathology reveals two distinct tropism phenotypes and identifies envelopes in brain that confer an enhanced tropism and fusigenicity for macrophages. *Journal of Virology* 78: 6915-6926 [* equal contribution].
- 49) **Bhattacharya, J.**, Peters, P. J., and Clapham, P.R. (2003). CD4-independent infection of HIV and SIV: implications for envelope conformation and cell tropism in vivo. *AIDS*: S35-S43.
- 50) **Bhattacharya, J.**, Samanta, S., Hoque, K.M., Mukherjee, A. and Chakrabarti, M.K. (2001). Escherichia coli heat stable enterotoxin receptors and guanylyl cyclase activity in the intestinal brush border membrane of hamsters and guinea pigs. *Indian Journal of Medical Research*, 113; 5-10
- 51) **Bhattacharya, J.** and Chakrabarti, M.K. (1999). Binding of Escherichia coli heat stable toxin and rise of guanylyl cyclase activity in the brush border membranes of rabbit intestinal epithelial cells. *Journal of Diarrhoeal Diseases Research*; 1; 28-33.
- 52) Basu, I., Mitra, R., Saha, P.K., Ghosh, A.N., **Bhattacharya, J.**, Chakrabarti, M.K., Takeda, Y. and Nair G.B. (1999). Morphological and cytoskeletal changes caused by non-membrane damaging cytotoxin of Vibrio cholerae on INT 407 and HeLa cells. *FEMS Microbiology Letters*. 179(2): 255-63.
- 53) **Bhattacharya, J.** and Chakrabarti, M.K. (1998). Rise of intracellular free calcium levels with activation of inositol triphosphate in a human colonic carcinoma cell line (COLO 205) by heat-stable enterotoxin of Escherichia coli. *Biochimica et Biophysica Acta*. 1403 (1): 1-4.
- 54) **Bhattacharya, J.**, Chaudhuri AG, Sinha AK, Samanta AK, Chakrabarti MK. (1997) Binding of *Escherichia coli* heat-stable enterotoxin and rise of cyclic GMP in COLO 205 human colonic carcinoma cells. *FEMS Microbiology Letters*; 156 (1): 79-83.
- 55) Chakrabarti, M.K., **Bhattacharya, J.**, Bhattacharya, M.K., Nair, G.B., Bhattacharya, S.K., Mahalanabis. D. (1999). Killed oral Shigella vaccine made from Shigella flexneri 2a protects against challenge in the rabbit model of shigellosis. *Acta Paediatr*. 88 (2): 161-5.
- 56) Chaudhuri, A.G., **Bhattacharya, J.**, Nair, G.B., Takeda, T. and Chakrabarti, M.K. (1998). Rise of cytosolic Ca²⁺ and activation of membrane-bound guanylyl cyclase activity in rat enterocytes by heat-stable enterotoxin of *Vibrio cholerae* non-01. *FEMS Microbiology Letters*. 1998 160(1): 125-9.
- 57) Chakrabarti, M.K., Bhattacharya, M.K, **Bhattacharya, J.**, Bhattacharya, S.K., and Mahalanabis, D. (1998). Evaluation of different antibiotics in inhibiting colonization of *Vibrio cholerae* O1 and O139 in the rabbit intestine. *Chemotherapy*. 44(2): 108-11.
- 58) Chakrabarti, M. K., **Bhattacharya, J.**, Sinha, A.K., De, S.P. (1995). Role of outer membrane proteins on the adherence of Vibrio parahaemolyticus to rabbit intestinal epithelial cell in vitro. *International Journal of Medical Microbiology*. 282(4): 436-41.
- 59) Chakrabarti, M.K., **Bhattacharya, J.** and De, S.P. (1995). Hemagglutinating activities of different strains of Vibrio parahaemolyticus. *Medical Science Research* 23: 497-498.
- 60) Chakrabarti, M.K. and **Bhattacharya, J.** (1996). Cyclic 3' 5' adenosine monophosphate in bacteria. *Indian Journal of Physiology and Allied Science*, 50: 128-135.

Extramural Research Grants & Funding

1. **Wellcome Trust-DBT India Alliance Team Science Grant (TSG)**. Developing broadly neutralizing monoclonal antibody mediated prevention and treatment strategy by assessing their effectiveness in neutralizing HIV-1 subtype C circulating in India across different regions and distinct risk groups.
Role: Lead PI
Partner Institutions: ICMR-NIRRH (PI: Dr V Patel), Mumbai and YRGCARE (PI: Dr S Saravanan), Chennai
Collaborators (India): Nair Hospital, Mumbai (West); Calcutta School of Tropical Medicine (East), YRGCARE CRC network (South, North-East, Central)
Collaborators (Global): Dr David Montefiori (Duke University, Durham, NC, USA) and IAVI Neutralizing Antibody Center, TSRI, La Jolla, California, USA
Awarded Year (2019). Funding period: 2020-2025; **Funding Amount:** INR ~ 9,21,17,530

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2. **Science & Engineering Research Board (SERB).** Department of Science & Technology, Identification, characterization and optimization of monoclonal antibodies that broadly neutralize entry of HIV-1 subtype C predominantly circulating in India.
Role: PI;
Awarded Year (2019). **Funding period:** 2020-2023; **Funding Amount:** INR 94,00,000
3. **The Research Council of Norway. GLOBVAC (Global Health & Vaccination Research),** (a tripartite collaboration between University of Oslo, Neutralizing Antibody Center, International AIDS Vaccine Initiative at The Scripps Research Institute, La Jolla, California, USA and Translational Health Science & Technology Institute, DBT, India), "Developing HIV broadly neutralizing antibodies as a prevention product for global access through antibody half-life extension engineering".
Role: PI (THSTI site);
Awarded Year: 2019, **Funding period:** 2019-2022; **Funded Amount:** 75,06,000 NOK (INR ~ 5,93,13,786).
4. **Department of Biotechnology, Govt of India.** "Indo-European Consortium for Next Generation Influenza Vaccine Innovation" under Horizon 2020 program
Role: Coinvestigator
Awarded Year: 2019, **Funding period:** 2020-2025
Collaborating Institutions from 19 Partnering Countries (India [NII, THSTI, PHFI, IIT-M, KEM], Germany, Belgium, Norway, France, Spain, USA, Netherlands.
5. **Department of Biotechnology & Department of Science & Technology** (under Indo-South Africa joint proposal). Isolation and Characterization of Monoclonal Antibodies from HIV-1 Subtype C Infected Individuals.
Role: PI & Program Coordinator (India) (South Africa PI: Prof Lynn Morris);
AWARDED Year: December 2017. **Total Awarded Amount:** INR 2,04,64,636.
6. **Department of Biotechnology.** National Bioscience Award Project **Status:** Completed.
Role: PI. **Period:** 2014-2017 Awarded Amount: INR 15, 00,000 (3 Years).
7. **Department of Biotechnology.** "Construction and Characterization of Genetically Engineered Chimeric HIV-1 Envelope Protein Modulating Virus Neutralization: Implication and Relevance in Vaccine development" **Status:** Completed.
Role: PI. **Awarded amount:** INR 53.87 Lacs. **Period:** 2010-2013.
8. **Department of Science and Technology (under IBSA Program).** "Identification of neutralizing antibody epitopes on Indian and South African HIV-1 subtype C viruses for HIV vaccine design". **Status:** Completed
Role: PI; Awarded **amount:** > INR 136 Lacs. **Period:** 2011-2014, **Type:** Multi-centric collaborative project between Indian institutes (NARI, AIIMS, ICGB, YRGCARE) and South Africa (NICD, Johannesburg).
9. **NIH Fogarty funded Vanderbilt NARI-NIE-Informatics Training Program (VNNIT) [1D43TW008440-01].** **Role:** Co-Principal Investigator (PI: Dr S M Mehendale).
10. **Department of Biotechnology / Indian Council of Medical Research (DBT/ICMR) [2006-2010].** Neutralization Epitope Mapping in HIV-1 Envelope of Indian Origin and Construction of Envelope- Based Peptide Immunogen for Generation of Broadly Cross-Reactive Neutralizing Antibodies. **Role:** Principal Investigator **Status:** Completed. **Awarded amount:** INR 54 Lakhs.
11. **Department of Biotechnology/Indian Council of Medical Research (DBT/ICMR) [2006-2010].** Comprehensive molecular analysis of HIV incidence, genetic diversity and anti-retroviral drug-resistance mutations in diverse risk groups across wide geographic locales of India. **Role:** PI, **Status:** Completed **Awarded amount:** INR 75 Lakhs.
12. **Department of Biotechnology/Indian Council of Medical Research (DBT/ICMR) [2006-2010].** Establishment of virtual knowledge and resource center for reagents, protocols and technology in context with research in HIV and AIDS.
Role: PI & Project Coordinator; **Status:** Completed **Awarded amount:** INR 9.92 Lakhs
13. **Collaboration of Vaccine Development-Vaccine Immune Monitoring Consortium (CAVD/VIMC):** Funded by Bill and Melinda Gates Foundation: **Role:** Co-investigator, India site (PI: David Montefiori, Duke University) **Status:** Completed.
14. **American Foundation of AIDS Research (amfAR),** New York, USA [2004-2006]. **Role:** Principal Investigator **Status:** Completed; **Awarded amount:** US\$ 99,000.