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Education

1989-1992 B.S. in Biology, summa cum laude, Univ. of Tennessee at Chattanooga; Chattanooga, TN
1992-1996 M.D., East Tennessee State University College of Medicine; Johnson City, TN
1996-1999 Intern and Resident, Internal Medicine, University of California, San Diego; La Jolla, CA
1999-2000 Chief Resident, Internal Medicine, University of California, San Diego; La Jolla, CA
2000-2003 Fellow, Infectious Diseases, University of California, San Diego; La Jolla, CA
2002-2005 M.A.S., Clinical Research, University of California, San Diego; La Jolla, CA

Board Certification

1999-2019 Internal Medicine, American Board of Internal Medicine
2004-2024 Infectious Disease, American Board of Internal Medicine

Appointments

2002-present Medical Director, The Night Clinic, Family Health Centers of San Diego; San Diego, CA (serving gay men and transgender individuals with culturally competent care)
2003-2009 Assistant Adjunct Professor of Medicine, Department of Medicine, Division of Infectious Diseases, University of California San Diego (UCSD); San Diego, CA
2004-2013 Medical Director, San Diego County Early Intervention and Bridge Programs, UCSD Antiviral Research Center; San Diego, CA
2005-present Staff Physician, Veterans Affairs Medical Center; San Diego, CA
2005-present Director, HIV/HCV and HIV/HPV Co-Infections Clinic, Special Infectious Diseases Program, Veterans Affairs Medical Center; San Diego, CA

2009-2018 Director, Translational Virology Core, UCSD Centers for AIDS Research, San Diego; CA
 2010-present Core Faculty, Internal Medicine Residency Program, UCSD; San Diego, CA
 2009-2013 Associate Professor of Medicine in Residence, Department of Medicine, Division of Infectious Diseases, UCSD; San Diego, CA
 2012-2017 Associate Director Infectious Disease Fellowship Training Program, UCSD; San Diego, CA
 2013-2016 Professor of Medicine In Residence, Department of Medicine, Division of Infectious Diseases, UCSD, San Diego, CA
 2014-present Co-director, San Diego Center for AIDS Research; San Diego, CA
 2016-present Professor of Medicine Ladder Rank, Department of Medicine, Division of Infectious Diseases, UCSD, San Diego, CA
 2016-present Research Director, Internal Medicine Residency Program, UCSD; San Diego, CA
 2016-2020 Vice-Chair of Faculty, Department of Medicine UCSD, San Diego, CA
 2017-present Chief, Division of Infectious Diseases and Global Public Health UCSD, San Diego, CA
 2020-present Florence Seeley Riford Chair in AIDS Research University of California San Diego
 2020-present Vice-Chair of Research, Department of Medicine UCSD, San Diego, CA

University and Community Service

1997-2005 Gay Men's Coming Out Group Facilitator
 2005-2017 Permanent Member, San Diego County HIV Planning Council; San Diego, CA
 2005-2017 Chair, Standards of Care Committee, San Diego County HIV Planning Council; San Diego, CA
 2008-2014 Board Member, Christie's Place; San Diego, CA (non-profit community support organization for women and families affected by HIV/AIDS) (President 2011-2014)
 2009-present UCSD Chancellor's Advisory Committee on Gender Identity and Sexual Orientation Issues (CACGISOI, Chair 2011-2013)
 2011-2015 Chair, Institutional Biosafety Committee, Veterans Affairs Healthcare System; San Diego, CA
 2011-2017 AIDS Clinical Trials Group HIV Reservoirs and Viral Eradication Transformative Science Group
 2012-2016 California HIV Research Program Scientific Advisory Board (Vice-Chair 2014, Chair 2015-2016)
 2013-2017 Department of Medicine Committee on Appointments and Promotions (Chair 2016, 2017)
 2016-present Department of Medicine Committee on Space and Equipment
 2017-present Department of Medicine Research Committee
 2017-2019 Member, NIH Office of AIDS Research Advisory Committee, Washington, DC
 2019-2020 Member, FDA Advisory Board on Antimicrobials
 2021-present World Health Organization Expert Panel on HIV Pre-exposure Prophylaxis for Low and Middle Income Countries (LIMC)

- 2021-present Organizing Committee Member for 13th International Symposium on Antimicrobial Agents and Resistance
- 2020-present Member of the national VA Coronavirus Research & Efficacy Studies (VA CURES)

Fellowships and Honor Societies

- 1995 AOA Medical Honor Society (Junior Year election, President Delta Chapter 1996)
- 2014 Fellow American College of Physicians (FACP)
- 2015 American Society of Clinical Investigation
- 2018 Fellow Infectious Disease Society of America (FIDSA)

Honors / Awards

- 1995 Student National Medical Association Senior Leadership Award, East Tennessee State University; Johnson City, TN
- 1996 President, Delta Chapter of the AOA Medical Honor Society, East Tennessee State University; Johnson City, TN
- 1996 College of Medicine Dean's Scholarship Award, East Tennessee State University; Johnson City, TN
- 2001 Men's Volunteer of the Year, The San Diego Lesbian, Gay, Bisexual, Transgender Community Center (The Center); San Diego, CA
- 2002 Associate Investigator Award, Veterans Affairs Medical Center; San Diego, CA
- 2005 Study of superinfection, published 2004 in JAMA, selected for Discover magazine's 2004 "The Year in Science: Top 100 Stories" as story #41. Discover 26(1), January 2005.
- 2005 Community Service Award, Transgender Community Coalition; San Diego, CA
- 2005 Selected for National Center for Leadership in Academic Medicine; University of California, San Diego; San Diego, CA
- 2005 AIDS Walk San Diego's Outstanding Volunteer of the Year (Medical Area); San Diego, CA
- 2008 "40 Under 40" Award (honoring young San Diego leaders) from San Diego Metropolitan magazine; San Diego, CA
- 2008 Nominated for the 2008 Kaiser Excellence in Teaching Award by the third-year students of the UCSD School of Medicine; San Diego, CA
- 2008 Finalist for the 2nd Annual Health Care Champions Awards by the San Diego Business Journal; San Diego, CA
- 2009 Awarded the Dr. A. Brad Truax Award (for outstanding achievement in the area of HIV/AIDS service) by the County of San Diego Health and Human Services Agency; San Diego, CA
- 2010 HIV Medical Association Research Award from the Infectious Diseases Society of America
- 2012 National Institute of Drug Abuse Avant Garde Award in HIV Prevention
- 2012, 2014 UCSD Internal Medicine Residency Teaching Award from the Chief Residents

OTHER SUPPORT

Active Grant Support

Title: **Specialized Cancer Center Support Grant**

Major Goals: Administrative supplement to support more effective immune-base therapeutic regimes for patients with HIV/AIDS related cancers from the Moores Cancer Center (MCC).

Project Number: P30 CA023100-34S2

Name of PD/PI: Lippman

Source of Support: NIH/NCI

Project/Proposal Start and End Date: 07/2020 – 04/2022

Total Award Amount: \$250,000

Title: **Mentoring Translational Research in HIV**

Major Goals: The major goal of this project is to mentor trainees in translational HIV research.

Project Number: K24 AI100665

Name of PD/PI: Smith

Source of Support: NIH/NIAID

Project/Proposal Start and End Date: (MM/YYYY) (if available): 05/2017 – 04/2023

Total Award Amount (including Indirect Costs): \$617,340

Title: **Center for AIDS Research**

Major Goals: To provide core research equipment and resources to investigators to further collaborative research on the molecular pathogenesis of HIV.

Project Number: P30 AI036214

Name of PD/PI: Smith

Source of Support: NIH/NIAID

Project/Proposal Start and End Date: 04/2013 – 03/2023

Total Award Amount: \$10,646,510

Title: **Revealing Reservoirs during Rebound (R3)**

Major Goals: This program will investigate HIV-infected study volunteers who started HIV therapy during early infection and some who started during chronic infection; all of whom interrupted this therapy.

Project Number: P01 AI131385

Name of PD/PI: Smith

Source of Support: NIH/NIAID

Project/Proposal Start and End Date: 08/2017 – 07/2022

Total Award Amount: \$7,669,693

Title: **Protocol A5401; Adaptive Platform Treatment Trial for Outpatients with COVID-19**

Major Goals: Adapt Out COVID is a master protocol to evaluate the safety and efficacy of investigational agents for the treatment of symptomatic non-hospitalized adults with SARS-CoV-2

infection. It includes a Phase II evaluation, with a seamless transition into a larger Phase III evaluation for promising agents.

Project Number: UM1 AI068636

Name of PD/PI: Currier

Source of Support: UCLA AIDS Clinical Trials Group Network (ACTG)/NIAID

Project/Proposal Start and End Date: 06/2020 – 11/2021

Total Award Amount: \$14,175

Title: **Protocol A5345; Biomarkers to Predict Time to Plasma HIV RNA Rebound**

Major Goals: Protocol A5345; Biomarkers to Predict Time to Plasma HIV RNA Rebound

The major goals of this protocol are to provide a template for future treatment interruption trials by providing data on participant safety and the effects of short-term treatment pauses.

Project Number: UM1 AI068636

Name of PD/PI: Currier

Source of Support: UCLA AIDS Clinical Trials Group Network (ACTG)/NIAID

Project/Proposal Start and End Date: 12/2018 – 11/2021

Total Award Amount: \$19,687

Title: **RADx-Rad Discoveries & Data: Consortium Coordination Center Program Organization**

Major Goals: The RADx-rad coordinating center will organize 49 awardees for the RADx-rad program, serving as a data coordinating center as well as a benchmarking laboratory for new SARS-CoV-2 testing technologies.

Project Number: U24 LM013755

Name of PD/PI: Ohno-Machado

Source of Support: NIH/NLM

Project/Proposal Start and End Date: 12/2020 – 11/2024

Total Award Amount: \$23,817,692

Title: **SARS-CoV-2 Immune Responses after COVID-19 Therapy and Subsequent Vaccine**

Major Goals: The goal of this project is to develop inhibitors targeting SARS-CoV-2 protease and test their efficacy in human lung organoids.

Project Number: CIRM 031721

Name of PD/PI: Rana

Source of Support: California Institute for Regenerative Medicine

Project/Proposal Start and End Date: 01/2021 – 12/2021

Total Award Amount: \$250,000

Title: **Pooled nucleic acid testing strategies for SARS-CoV-2 to Screen HIV Providers and Protect HIV Patients**

Major Goals: Implement a pooled NAT platform and process of testing that is both safe for study personnel and persons with HIV (PWH).

Project Number: MISP#60300

Name of PD/PI: Chaillon

Source of Support: Merck

Project/Proposal Start and End Date: 01/2021 – 06/2022

Total Award Amount: \$315,021

Title: Brain Myeloid Cells are Sources of HIV-associated Damage and Viral Dispersal

Major Goals: While HIV persistence in resting T cells has been extensively characterized, the role of HIV in brain myeloid cells (BMC) as a reservoir and as a source of rebound upon cessation of antiretroviral treatment (ART) is yet to be determined. Using CNS tissues from 20 participants enrolled in the Last Gift cohort (an ongoing rapid autopsy study), we will determine the role of BMC: (i) in the maintenance of HIV reservoir across the CNS with different ART and opioid penetration, (ii) as a source for HIV dispersal, and (iii) in inflammation-induced neurological damage. This will provide new insights for the development of strategies to effectively clear HIV infection and lessen HIV-associated neurological damage.

Project Number: R01 AI158293

Name of PD/PI: Chaillon

Source of Support: NIH

Project/Proposal Start and End Date: 07/2021 – 04/2026

Total Award Amount: \$3,578,599

Publications (1-312)

1. Smith DM, Ziegler EJ, Rickman LS. Primary Meningococcal Polyarthritits, Cellulitis, and Pneumonia in an Elderly, Immunocompetent Woman. *Infectious Diseases in Clinical Practice*. 1999;8(4):215-8.
2. Smith DM, Rickman LS. Echinococcosis: A Drop of Water—Review on Human Disease, Diagnosis, and Management. *Infectious Diseases in Clinical Practice*. 2001;10(7):355-9.
3. Smith D, Letendre S. Viral pneumonia as a serious complication of etanercept therapy. *Ann Intern Med*. 2002;136(2):174-. doi: 10.7326/0003-4819-136-2-200201150-00020. PubMed PMID: 11790076.
4. Smith D, Metzgar D, Wills C, Fierer J. Fatal *Saccharomyces cerevisiae* aortic graft infection. *J Clin Microbiol*. 2002;40(7):2691-2. doi: 10.1128/jcm.40.7.2691-2692.2002. PubMed PMID: 12089311.
5. Rought S, Sasik R, Smith D, Corbeil J. Chipping Away at HIV Pathogenesis. In: Shaw KJ, editor. *Pathogen Genomics*. Totowa, New Jersey: Humana Press Inc; 2002. p. 13-24.
6. Smith D, Wong J. Continue antiretroviral therapy during virologic failure? *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*. 2002;34(4):553-6. doi: 10.1086/338017. PubMed PMID: 11797186.
7. Smith D, Bannykh S, Ziegler E. A woman kicked in the head by a horse. *Infectious Diseases in Clinical Practice*. 2002;11(1):28-9.
8. Strain MC, Günthard HF, Havlir DV, Ignacio CC, Smith DM, Leigh-Brown AJ, Macaranas TR, Lam RY, Daly OA, Fischer M, Opravil M, Levine H, Bacheler L, Spina CA, Richman DD, Wong JK. Heterogeneous clearance rates of long-lived lymphocytes infected with HIV: intrinsic stability predicts lifelong persistence. *Proceedings of the National Academy of Sciences of the United States of America*. 2003;100(8):4819-24. Epub 2003/04/08. doi: 10.1073/pnas.0736332100. PubMed PMID: 12684537.
9. Mackowiak PA, Chardos JF, Smith D, Letendre S. Demyelinating Encephalitis. *Clinical Infectious Diseases*. 2003;36(10):1332-4. doi: 10.1086/374893.

10. Smith D, Koelsch K, Wong J, Hightower G, Ignacio C, Richman D, Little S, editors. Male genital tract compartmentalization and transmission of 215L revertant. *Antiviral Therapy*; 2003: Int Medical Press Ltd 2-4 Idol Lane, London EC3R 5DD, England.
11. Koelsch KK, Smith DM, Little SJ, Ignacio CC, Macaranas TR, Brown AJ, Petropoulos CJ, Richman DD, Wong JK. Clade B HIV-1 superinfection with wild-type virus after primary infection with drug-resistant clade B virus. *AIDS (London, England)*. 2003;17(7):F11-F6. doi: 10.1097/00002030-200305020-00001. PubMed PMID: 12700477.
12. Smith DM, Wong JK, Hightower GK, Ignacio CC, Koelsch KK, Daar ES, Richman DD, Little SJ. Incidence of HIV superinfection following primary infection. *JAMA*. 2004;292(10):1177-8. doi: 10.1001/jama.292.10.1177. PubMed PMID: 15353529.
13. Smith DM, Kingery JD, Wong JK, Ignacio CC, Richman DD, Little SJ. The prostate as a reservoir for HIV-1. *AIDS (London, England)*. 2004;18(11):1600-2. doi: 10.1097/01.aids.0000131364.60081.01. PubMed PMID: 15238781.
14. Richman DD, Little SJ, Smith DM, Wrin T, Petropoulos C, Wong JK. HIV evolution and escape. *Trans Am Clin Climatol Assoc*. 2004;115:289-303. PubMed PMID: 17060974.
15. Wong JK, Smith D, Richman D. Chapter 34 - HIV Drug Susceptibility Testing. In: Wormser GP, editor. *AIDS and Other Manifestations of HIV Infection (Fourth Edition)*. San Diego: Academic Press; 2004. p. 883-904.
16. Frost SDW, Wrin T, Smith DM, Kosakovsky Pond SL, Liu Y, Paxinos E, Chappey C, Galovich J, Beauchaine J, Petropoulos CJ, Little SJ, Richman DD. Neutralizing antibody responses drive the evolution of human immunodeficiency virus type 1 envelope during recent HIV infection. *Proceedings of the National Academy of Sciences of the United States of America*. 2005;102(51):18514-9. Epub 2005/12/09. doi: 10.1073/pnas.0504658102. PubMed PMID: 16339909.
17. Smith DM, Richman DD, Little SJ. HIV superinfection. *The Journal of infectious diseases*. 2005;192(3):438-44. Epub 2005/06/30. doi: 10.1086/431682. PubMed PMID: 15995957.
18. Strain MC, Letendre S, Pillai SK, Russell T, Ignacio CC, Günthard HF, Good B, Smith DM, Wolinsky SM, Furtado M, Marquie-Beck J, Durelle J, Grant I, Richman DD, Marcotte T, McCutchan JA, Ellis RJ, Wong JK. Genetic composition of human immunodeficiency virus type 1 in cerebrospinal fluid and blood without treatment and during failing antiretroviral therapy. *Journal of virology*. 2005;79(3):1772-88. doi: 10.1128/JVI.79.3.1772-1788.2005. PubMed PMID: 15650202.
19. Smith DM, Wong JK, Hightower GK, Ignacio CC, Koelsch KK, Petropoulos CJ, Richman DD, Little SJ. HIV drug resistance acquired through superinfection. *AIDS (London, England)*. 2005;19(12):1251-6. doi: 10.1097/01.aids.0000180095.12276.ac. PubMed PMID: 16052079.
20. Yang OO, Daar ES, Jamieson BD, Balamurugan A, Smith DM, Pitt JA, Petropoulos CJ, Richman DD, Little SJ, Brown AJL. Human immunodeficiency virus type 1 clade B superinfection: evidence for differential immune containment of distinct clade B strains. *Journal of virology*. 2005;79(2):860-8. doi: 10.1128/JVI.79.2.860-868.2005. PubMed PMID: 15613314.

21. Pillai SK, Good B, Pond SK, Wong JK, Strain MC, Richman DD, Smith DM. Semen-specific genetic characteristics of human immunodeficiency virus type 1 env. *Journal of virology*. 2005;79(3):1734-42. doi: 10.1128/JVI.79.3.1734-1742.2005. PubMed PMID: 15650198.
22. Pillai SK, Kosakovsky Pond SL, Woelk CH, Richman DD, Smith DM. Codon volatility does not reflect selective pressure on the HIV-1 genome. *Virology*. 2005;336(2):137-43. doi: 10.1016/j.virol.2005.03.014. PubMed PMID: 15892955.
23. Smith D, Wong J, Mai H, Moreno J, Russell T, Ignacio C, Frost S, Richman D, Little S, editors. Slow reversion of HIV transmitted drug resistance to non-nucleoside reverse transcriptase inhibitors in semen. *Antiviral Therapy*; 2005: Int Medical Press LTD, London, England.
24. Little SJ, Smith DM. HIV treatment decisions and transmitted drug resistance. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*. 2005;41(2):233-5. doi: 10.1086/431215. PubMed PMID: 15983921.
25. Goicoechea M, Smith DM, Liu L, May S, Tenorio AR, Ignacio CC, Landay A, Haubrich R. Determinants of CD4+ T cell recovery during suppressive antiretroviral therapy: association of immune activation, T cell maturation markers, and cellular HIV-1 DNA. *The Journal of infectious diseases*. 2006;194(1):29-37. Epub 2006/05/18. doi: 10.1086/504718. PubMed PMID: 16741879.
26. Smith DM, Strain MC, Frost SDW, Pillai SK, Wong JK, Wrin T, Liu Y, Petropoulos CJ, Daar ES, Little SJ, Richman DD. Lack of neutralizing antibody response to HIV-1 predisposes to superinfection. *Virology*. 2006;355(1):1-5. Epub 2006/09/07. doi: 10.1016/j.virol.2006.08.009. PubMed PMID: 16962152.
27. Pillai SK, Pond SLK, Liu Y, Good BM, Strain MC, Ellis RJ, Letendre S, Smith DM, Günthard HF, Grant I, Marcotte TD, McCutchan JA, Richman DD, Wong JK. Genetic attributes of cerebrospinal fluid-derived HIV-1 env. *Brain : a journal of neurology*. 2006;129(Pt 7):1872-83. Epub 2006/05/30. doi: 10.1093/brain/awl136. PubMed PMID: 16735456.
28. Smith DM, Drumright LN, Frost SDW, Cheng WS, Espitia S, Daar ES, Little SJ, Gorbach PM. Characteristics of recently HIV-infected men who use the Internet to find male sex partners and sexual practices with those partners. *Journal of acquired immune deficiency syndromes (1999)*. 2006;43(5):582-7. doi: 10.1097/01.qai.0000243100.49899.2a. PubMed PMID: 17019370.
29. Smith DM. The controversies of nevirapine for preventing mother-to-child HIV transmission. *AIDS (London, England)*. 2006;20(2):281-3. doi: 10.1097/01.aids.0000198095.00820.82. PubMed PMID: 16511423.
30. Mehta S, Herndier N, Smith D. *Mycobacterium szulgai* causing knee abscess and osteomyelitis in a patient with acquired immunodeficiency syndrome and subsequent immune reconstitution Syndrome. *Infectious Diseases in Clinical Practice*. 2006;14. doi: 10.1097/01.idc.0000214370.54423.2f.
31. Smith DM, Strain MC, Frost SDW, Pillai SK, Wong JK, Wrin T, Liu Y, Petropoulos CJ, Daar ES, Little SJ, Richman DD. Lack of neutralizing antibody response to HIV-1 predisposes to superinfection. *Virology*. 2006;355(1):1-5. Epub 2006/09/07. doi: 10.1016/j.virol.2006.08.009. PubMed PMID: 16962152.

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33. Smith DM, Wong JK, Shao H, Hightower GK, Mai SHT, Moreno JM, Ignacio CC, Frost SDW, Richman DD, Little SJ. Long-term persistence of transmitted HIV drug resistance in male genital tract secretions: implications for secondary transmission. *The Journal of infectious diseases*. 2007;196(3):356-60. Epub 2007/06/19. doi: 10.1086/519164. PubMed PMID: 17597449.
34. Smith D, Moini N, Pesano R, Cachay E, Aiem H, Lie Y, Richman D, Little S. Clinical utility of HIV standard genotyping among antiretroviral-naïve individuals with unknown duration of infection. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*. 2007;44(3):456-8. Epub 2006/12/28. doi: 10.1086/510748. PubMed PMID: 17205459.
35. Smith DM, Mathews WC. Physicians' attitudes toward homosexuality and HIV: survey of a California Medical Society- revisited (PATHH-II). *J Homosex*. 2007;52(3-4):1-9. Epub 2007/06/28. doi: 10.1300/J082v52n03_01. PubMed PMID: 17594969.
36. Cachay ER, Frost SDW, Richman DD, Smith DM, Little SJ. Herpes simplex virus type 2 infection does not influence viral dynamics during early HIV-1 infection. *The Journal of infectious diseases*. 2007;195(9):1270-7. Epub 2007/03/15. doi: 10.1086/513568. PubMed PMID: 17396995.
37. Noviello CM, Pond SLK, Lewis MJ, Richman DD, Pillai SK, Yang OO, Little SJ, Smith DM, Guatelli JC. Maintenance of Nef-mediated modulation of major histocompatibility complex class I and CD4 after sexual transmission of human immunodeficiency virus type 1. *Journal of virology*. 2007;81(9):4776-86. Epub 2007/02/28. doi: 10.1128/JVI.01793-06. PubMed PMID: 17329339; PubMed Central PMCID: PMC1900175.
38. Cachay ER, Moini N, Kosakovsky Pond SL, Pesano R, Lie YS, Aiem H, Butler DM, Letendre S, Mathews WC, Smith DM. Active methamphetamine use is associated with transmitted drug resistance to non-nucleoside reverse transcriptase inhibitors in individuals with HIV infection of unknown duration. *Open AIDS J*. 2007;1:5-10. Epub 2008/10/17. doi: 10.2174/1874613600701010005. PubMed PMID: 18923691; PubMed Central PMCID: PMC2556194.
39. Ances B, Perthen J, Liang C, Leontiev O, Smith D, Little S, Richman D, Letendre S, Buxton R, Ellis R, editors. Acute and chronic HIV reduce the BOLD signal magnitude. *Annals of Neurology*; 2007: Wiley-Liss Div John Wiley & Sons Inc, 111 River St, Hoboken, NJ 07030 USA.
40. Ances B, Liang C, Sisti D, Buxton R, Smith D, Little S, Letendre S, Richman D, Ellis R, editors. Cerebral blood flow (CBF) and cerebral metabolic rate of oxygen consumption (CMRO₂) are elevated in both early and chronically infected HIV plus patients compared to seronegative controls using quantitative functional magnetic resonance imaging (qfMRI). *Journal of Neurovirology*; 2007: Taylor & Francis Inc 325 Chestnut St, Suite 800, Philadelphia, PA 19106 USA.
41. Ances BM, Liang C, Buxton RB, Smith D, Little S, Letendre S, Richman D, Ellis R, editors. Differences in cerebral blood flow (CBF) and cerebral metabolic rate of oxygen consumption (CMRO₂) in HIV+ patients compared to seronegative controls using quantitative functional magnetic resonance imaging (qfMRI). *Journal of Neurovirology*; 2007: Springer 233 Spring St, New York, NY 10013 USA.

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43. Hightower G, Letendre S, Cachay E, Cherner M, Gibson S, Ellis R, Richman D, Ignacio C, Smith D, editors. Antiretroviral resistance and neuropsychological performance among HIV-infected individuals. *Antiviral Therapy*; 2007: Int Medical Press Ltd 2-4 Idol Lane, London EC3R 5DD, England.
44. Little S, Parkin N, Chappey C, Smith D, Richman D, Frost S, editors. Differences in viral load and replication capacity in individuals harbouring virus with or without drug resistance. *Antiviral Therapy*; 2007: Int Medical Press Ltd 2-4 Idol Lane, London EC3R 5DD, England.
45. Little SJ, Frost SD, Wong JK, Smith DM, Pond SLK, Ignacio CC, Parkin NT, Petropoulos CJ, Richman DD. Persistence of transmitted drug resistance among subjects with primary human immunodeficiency virus infection. *Journal of virology*. 2008;82(11):5510-8. PubMed PMID: 18353964; PubMed Central PMCID: PMC2395184.
46. Butler DM, Smith DM, Cachay ER, Hightower GK, Nugent CT, Richman DD, Little SJ. Herpes simplex virus 2 serostatus and viral loads of HIV-1 in blood and semen as risk factors for HIV transmission among men who have sex with men. *AIDS (London, England)*. 2008;22(13):1667-71. Epub 2008/08/02. doi: 10.1097/QAD.0b013e32830bfed8. PubMed PMID: 18670228; PubMed Central PMCID: PMC2653089.
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48. Kosakovsky Pond SL, Poon AF, Zarate S, Smith DM, Little SJ, Pillai SK, Ellis RJ, Wong JK, Leigh Brown AJ, Richman DD, Frost SD. Estimating selection pressures on HIV-1 using phylogenetic likelihood models. *Statistics in medicine*. 2008;27(23):4779-89. Epub 2008/04/03. doi: 10.1002/sim.3192. PubMed PMID: 18381707; PubMed Central PMCID: PMC2634745.
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52. Little SJ, Frost SD, Wong JK, Smith DM, Pond SL, Ignacio CC, Parkin NT, Petropoulos CJ, Richman DD. Persistence of transmitted drug resistance among subjects with primary human

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