

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Folks, Thomas Murill	POSITION TITLE INFECTIOUS DISEASE CONSULTANT
eRA COMMONS USER NAME TFOLKS	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Texas, Austin, TX	B.A.	1970	Microbiology
Texas A&M Univ., School of Vet. Med., Austin, TX	M.S.	1972	Microbiology
University of Texas Health Science Center, San Antonio, TX	Ph.D.	1977	Biomedical Science (Microbiology)

A. Personal Statement

“At the front of translational medicine, non-human primates are often the last critical piece in a research puzzle before a new life-saving process can be applied to humans.”

My research interests are the continued development of non-human primate models for advancement in HIV prevention strategies. Prevention is the best approach in curbing the AIDS epidemic, and methods such as microbicides, Pre-Exposure Prophylaxis, and vaccines offer the greatest opportunities in achieving this goal. Prevention strategies should be tested in animal models using the most natural modes of transmission thus providing a more accurate evaluation of a test article’s efficacy.

B. Positions and Honors

Positions and Employment

- 1977-1979 Postdoctoral Research Associate Fellowship, National Research Council, Naval Medical Research Institute, Naval Medical Center, Department of Immunology, Bethesda, MD (Advisor: Aftab Ansari, Ph.D.)
- 1979-1981 Staff Fellow, Immunobiology Section, Laboratory of Immunogenetics, NIAID, National Institutes of Health, Bethesda, MD (Lab Chief, Thomas Kindt, Ph.D.)
- 1981-1984 Senior Staff Fellow, Immunobiology Section, Laboratory of Immunogenetics, NIAID, National Institutes of Health, Bethesda, MD
- 07/1984-03/1985 Expert, Clinical Immunology Section, Resources Branch, NIAID, National Institutes of Health, Bethesda, Maryland (Chief, K.W. Sell, MD, Ph.D.); and Assistant Professor of Pediatrics, Georgetown University School of Medicine, Washington, D.C.
- 1985-1988 Expert, Laboratory of Immunoregulation, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland (Chief, Anthony S. Fauci, M.D.)
- 1988-2005 Chief, HIV and Retrovirology Branch, Centers for Disease Control and Prevention, Atlanta, GA
- 01/2005-10/2007 Appointed Chief, Division of HIV/AIDS Prevention Laboratory Branch, Centers for Disease Control and Prevention, Atlanta, Georgia (Scientific Manager and Direct Supervisor)
- 10/2007-12/2012 Associate Director for Research Resources, Southwest National Primate Research Center, Southwest Foundation for Biomedical Research, San Antonio, TX
Scientist, Department of Virology and Immunology, Southwest Foundation for Biomedical Research, San Antonio, TX
- 01/2013- present Infectious Disease Consultant

CURRENT BUSINESS ADDRESS

Program Director/Principal Investigator (Last, First, Middle):

14014 French Park
San Antonio, TX 78023
210-957-3698
210-837-9197 (cell)
virusdoctom@aol.com

Joint Appointment

1997- 2006 FDA, Special Government Employee, Consultant

Committees and Service

1990 Centers for Disease Control In-House Review Panel on Filovirus Activities
1991 AIDS Clinical Trial Group, Virology Advisory Board
1992 FDA, Molecular Biology Scientific Counselor Review Board
1992 NIH Study Section, Grant Reviewer on AIDS and Cytokines
1985-1998 Member, CDC Working Group, Public Health Implications of Xenotransplantation
1995 Advisor, FDA, Therapeutic HIV Vaccines
04/1995 Primary Reviewer – AIDS Clinical Trial Group – NIAID, Gaithersburg
1997-2000 Head, CDC/FDA/NIH Working Group for Avian Virus Contamination in Vaccines
1997-2007 Core Committee Member; Center for AIDS Research (CFAR), Emory University
Biosafety Committee and Guest Editor for 3rd & 4th Edition of CDC/NIH Biosafety in
Microbiological and Biomedical Laboratories
2001 Principal Investigator on Interagency Agreement with the FDA to investigate variant HIV's in
Cameroon
01/2002 Panel Member, NIH HIV Vaccine Planning Workshop
01/2003-05 Member, Research and Development Committee, International Partnerships for
Microbicides
09/2005 Technical Advisor, Gates Foundation for HIV/AIDS Vaccine Enterprise
2006 Member, Scientific Review Committee; AIDS Vaccine
09/2006 Member, Biomedical Interventions for HIV Prevention Working Group, A Bill & Melinda
Gates Forum Project, Washington, D.C.
01/2007 Member, AIDS Vaccine Research Working Group (AVRWG)
2009-2012 Member – Baylor CFAR
2008-present Advisory Board Member, South Texas Center for Emerging Infectious Diseases, UTSA
2009-present Scientific Advisory Board, Biometrica, San Francisco, CA
2012-present Scientific Board Member, Global Disease Research, Ft Worth, TX
2014-present Consultant, HIV vaccine program, Ruprecht Lab, TxBioMed Res. Inst., San Antonio, TX

Honors and Awards

03/1977 S. Edward Sulken Award (Texas Branch, American Society for Microbiology)
04/1977 National Research Council, Postdoctoral Fellowship
03/1988 Weismann Scholarship Award
04/1988 NIH Directors Award
07/1993 Chronic Fatigue Syndrome Group Investigations Award – CDC
05/1994 James Nakano Citation – CDC (15 Nominations)
12/1997 Appointed Senior Biomedical Research Scientist – CDC/PHS/HHS
10/2002 Arnold G. Wedum Memorial Lecture Award
06/2004 NCHSTP Director's Recognition Award

Patents

Patent – Folks, Powell and Martin. A cell line producing HIV-1 viral antigens without producing infectious particles.
Patent – Rabson, Leonard, Adachi, Martin, Wiley, Folks, et. al. Novel infectious clones of HIV DNA for easy mutational changes.
Patent – Kulaga, Folks, Kindt. Animal model for testing vaccines and therapeutic agents against AIDS.
Patent – Powell, Clouse, Folks. A chronically infected T cell line (ACH-2).
Patent – Butera, Perez, Folks. A unique CD4⁺ HIV-1 infected promyelocytic clone.
Patent – Heneine, Switzer, Yamamoto, Folks. Development of a new improved sensitive method for Reverse

Transcriptase (AMP-RT) Detection.

Patent – Sandstrom, Brown, Switzer, Heneine, Folks. A new retrovirus isolated from humans.

Patent – Heneine, Garcia-Lerma, Yamamoto, Switzer, Folks. Method and kit for detecting HIV Resistance to anti-viral drugs.

Patent – Folks, Grovit-Ferbas, Xie, Chen. Live Replicating Spumavirus vector.

Patent – Kalish, Ndongmo, Pau, Switzer, Folks. Multiple antigenic peptide assay for detection of HIV or SIV type Retroviruses.

Patent – Robinson, Smith, Hua, Moss, Amara, Ross, Bright, Wyatt, Earl, Ellenberger, Folks, Butera. Compositions and Methods for Generating an Immune Response.

Patent – Switzer, Heneine, Folks. Novel Primate T-Lymphotropic Viruses.

C. PUBLICATIONS, 217 peer-reviewed publications

PUBLISHED, 2005 to present

Otten R, Adams D, Kim C, Jackson E, Pullium J, Lee K, Grohskopf L, Monsour M, Butera ST, Folks TM.

Multiple low-dose vaginal exposures with a SHIV (R5) virus: novel strategy to study HIV pre-clinical interventions in nonhuman primates. *J Infect Dis* 191:164-173, 2005.

Wolfe ND, Heneine W, Carr JK, Garcia AD, Shanmugam V, Tamoufe U, Torimiro JN, Prosser AT, Lebreton M, Mpoudi-Ngole E, McCutchan FE, Birx DL, Folks TM, Burke DS, Switzer WM. Emergence of unique primate T-lymphotropic viruses among central African bushmeat hunters. *Proc Natl Acad Sci USA* 102:7994-7999, 2005.

Ellenberger D, Otten RA, Li B, Rodriguez V, Sariol CA, Martinez M, Monsour M, Wyatt L, Hudgens MG, Kraiselburd E, Moss B, Robinson H, Folks TM, Butera S. HIV-1 DNA/MDA vaccination reduces the per exposure probability of infection during repeated mucosal SHIV challenges. *Virology* 352:216-225, 2006.

Kim CN, Adams DR, Bashirian S, Butera S, Folks TM, Otten RA. Repetitive exposures with simian/human immunodeficiency viruses: strategy to study HIV pre-clinical interventions in non-human primates. *J Med Primatol* 35:210-216, 2006.

Subbarao S, Otten R, Ramos A, Jackson E, Monsour M, Adams D, Kim C, Bashirian S, Johnson J, Soriano V, Hart C, Janssen R, Paxton L, Greenberg A, Folks TM. Oral pre-exposure prophylaxis with Tenofovir protected rhesus macaques against multiple rectal virus challenges but ultimately did not prevent infection. *J Infect Dis* 194:904-911, 2006.

Switzer WM, Qari S, Wolfe ND, Burke DS, Folks TM, Heneine W. Ancient origin and molecular features of the novel human T-lymphocyte virus Type 3 revealed by complete genome analysis. *J Virol* 80:7427-7438, 2006.

Aidoo, M, Otten RA, Rodriguez V, Sariol CA, Martinez M, Kraiselburd E, Robinson H, Folks T, Butera S, Ellenberger D. Absence of SHIV infection in gut and lymph tissues in rhesus monkeys after repeated rectal challenges following HIV-1 DNA/MVA immunizations. *Vaccine* 25:6474-6481, 2007.

Garcia-Lerma JG, Otten R, Qari S, Jackson E, Cong M, Masciotra S, Luo W, Kim C, Adams D, Monsour M, Lipscomb J, Johnson J, Delinsky D, Schinazi R, Janssen R, Folks T, Heneine W. Prevention of Rectal SHIV Transmission in Macaques by Daily or Intermittent Prophylaxis with FTC and Tenofovir Combination. *PLoS Med* 5:e28, 2008. *PMCID: PMC2225435*

Kersh EN, Luo W, Adams DR, Mitchell J, Garcia-Lerma JG, Heneine W, Folks TM, Butera S, Otten RA. No evidence of occult SHIV infection as demonstrated by CD8(+) cell depletion after chemoprophylaxis-induced protection from mucosal infection in rhesus macaques. *AIDS Res Hum Retroviruses* 24:543-546, 2008. *PMCID: Pre-PMC Requirement*

Switzer WM, Garcia AD, Yang C, Wright A, Kalish ML, Folks TM, Heneine W. Coinfection with HIV-1 and simian foamy virus in West Central Africans. *J Infect Dis*.197:1389-1393, 2008. *PMCID: Pre-PMC Requirement*

Sintasath DM, Wolfe ND, Lebreton M, Jia H, Garcia AD, Le Doux-Diffo J, Tamoufe U, Carr JK, Folks TM, Mpoudi-Ngole E, Burke DS, Heneine W, Switzer WM. Simian T-lymphotropic virus diversity among nonhuman primates, Cameroon. *Emerg Infect Dis*. 2009 15:175-184. *Free article: <http://www.cdc.gov/eid/content/15/2/175.htm>*

Program Director/Principal Investigator (Last, First, Middle):

Switzer WM, Salemi M, Qari SH, Jia H, Gray RR, Katzourakis A, Marriott SJ, Pryor KN, Wolfe ND, Burke DS, Folks TM, Heneine W. Ancient, independent evolution and distinct molecular features of the novel human T-lymphotropic virus type 4. *Retrovirology* 2009 6:9. *PMCID: PMC2647524*

J. Gerardo Garcia' Lerma, Mian-er Cong, James Mitchell, Ae S. Youngpairoj, Qi Zheng, Silvina Masciotra, Amy Martin, Zsuzsanna Kuklennyik, Angela Holder, Jonathan Lipscomb, Chou-Pong Pau, John R. Barr, Debra L. Hanson, Rob Otten, Lynn Paxton, Thomas M. Folks, Walid Heneine Intermittent Prophylaxis with Oral Truvada Protects Macaques from Rectal SHIV Infection; 13 January 2010, *Sci. Transl. Med.* 2, 14ra4

D. Previous Grants

2 P51 RR013986-11 (Trevett)	05/01/09 - 04/30/14	5.70 calendar
NIH/NCRR	\$817,590 (component	
Southwest National Primate	directed by Dr. VandeBerg)	
Research Center		
Center Operations: Director's Office		

Base grant that supports the infrastructure of the Southwest National Primate Research Center. As Co-Leader, I oversaw all of the research resource components of the SNPRC, prepares the SNPRC annual reports, prepares applications for construction and facility improvement grants, plans new facilities, and promotes of the Center to outside investigators.