BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Norris, Philip John	Associate Investigator Director of Immunology
eRA COMMONS USER NAME (credential, e.g. agency login) philipnorris	

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

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of California at Berkeley	B.A. B.S.	1989 1989	Molecular Biology Bioengineering
College of Physicians & Surgeons, Columbia U.	M.D.	1995	
The Presbyterian Hospital in the City of New York, Columbia University		1995 -1996	Intern Internal Medicine
Duke University Medical Center		1996 -1998	Resident Internal Medicine
Massachusetts General Hospital, Harvard University		1998 - 2001	Fellow Infectious Diseases

A. Positions and Honors.

Positions and Employment

1987 - 1989 Technician / Senior Technician, Tegal Corporation, Petaluma, CA
1990 Research Engineer, Tegal Corporation, Petaluma, CA
1992 Research Associate, University of California at Berkeley, Berkeley, CA
2002 - 2003 Instructor in Medicine, Massachusetts General Hospital, Boston, MA
2004 - 2006 Visiting Scientist, Gladstone Institute of Virology and Immunology
2004 - Associate Investigator and Director of Immunology, Blood Systems Research Institute
2005 - 2009 Assistant Adjunct Professor, Department of Laboratory Medicine and Assistant Clinical Professor, Department of Medicine, University of California, San Francisco
2006 - Staff Physician, Blood Centers of the Pacific, San Francisco, CA
2009 - Associate Adjunct Professor, Department of Laboratory Medicine and Associate Clinical Professor, Department of Medicine, University of California, San Francisco

Honors

1985 National Merit Scholar
1985 - 1989 University of California Chancellor's Scholar
1985 - 1989 University of California Alumni Association Scholar
1985 California Scholarship Federation Award
1985 Bank of America Scholar's Award
1985 - 1989 James B. Black Award (Pacific Gas & Electric Co. 4 year scholarship)
1995 Letter of Commendation for Teaching Excellence, College of Physicians & Surgeons, Columbia University
1999 - Chairman, P&S Class of 1995
2000 - 2005 Doris Duke Charitable Foundation Clinical Scientist Development Award

Other Experience, Professional Certifications and Memberships

1995 Diplomate of National Board of Medical Examiners
1996 Diplomate of American Board of Internal Medicine
2000 Board Certified in Infectious Disease
2004 -2005 Steering Committee, Blood Systems Research Institute
2005 NIH Study Section member, HIVRAD (HIV vaccine grants)

2005 -	Associate Director, UCSF-GIVI Center for AIDS Research
2008	NIH Special Emphasis Panel, SBIR review of pathogen inactivation technologies
2009	NIH Special Emphasis Panel, Immune Mechanisms of Virus Control (IMVC)
2009-	Editorial Board, Virulence

B. Selected peer-reviewed publications (in chronological order).

1. **Norris PJ**, Rosenberg ES. Cellular immune response to human immunodeficiency virus. AIDS 15 Suppl 2:S16-21 (2001).
2. **Norris PJ**, Sumaroka M, Brander C, Moffett HF, Boswell SL, Nguyen T, Sykulev Y, Walker BD, Rosenberg ES. Multiple effector functions mediated by HIV-specific CD4+ T cell clones. J Virol 75(20):9771-9779 (2001).
3. Hioe CE, Tuen M, Chien PC, Jones G, Ratto-Kim S, **Norris PJ**, Moretto WJ, Nixon DF, Gorny MK, Zolla-Pazner S. Inhibition of Human Immunodeficiency Virus Type 1 gp120 Presentation to CD4 T Cells by Antibodies Specific for the CD4 Binding Domain of gp120. J Virol 75(22):10950-10957 (2001).
4. **Norris PJ**, Rosenberg ES. HIV-specific CD4+ T helper cells and the role they play in viral control. J Mol Med 80:397-405 (2002).
5. Cameron TO, **Norris PJ**, Patel A, Moulon C, Rosenberg ES, Wedderburn LR, Stern LJ. Labeling antigen-specific CD4+ T cells with class II MHC oligomers. J Imm Methods 268:51-69 (2002).
6. Kradin RL, Mark EJ, Belley G, **Norris PJ**, Ton F. A 48-year-old man with a cough and bloody sputum - Wegener's granulomatosis, with microabscesses, capillaritis, granulomatous vasculitis, diffuse granulomatous tissue, and palisading granuloma. NEJM 346(24):1892-99 (2002).
7. **Norris PJ**, Moffett HF, Brander C, Allen TM, O'Sullivan KM, Cosimi LA, Kaufmann DE, Walker BD, and Rosenberg ES. Fine specificity and cross-clade reactivity of HIV-1 Gag-specific CD4+ T cells. AIDS Res Hum Retroviruses 20(3):315-25 (2004).
8. Kaufmann DE, Bailey PM, Sidney J, Wagner B, **Norris PJ**, Johnston MN, Cosimi LA, Addo MM, Lichterfeld M, Altfeld M, Frahm N, Brander C, Sette A, Walker BD, Rosenberg ES. Comprehensive Analysis of Human Immunodeficiency Virus Type 1-Specific CD4 Responses Reveals Marked Immunodominance of gag and nef and the Presence of Broadly Recognized Peptides. J Virol 78(9):4463-77 (2004).
9. SenGupta D*, **Norris PJ***, Suscovich TJ, Hassan-Zahraee M, Moffett HF, Trocha A, Goulder PJR, Levey DL, Walker BD, Srivastava PK, Brander C. Heat Shock Protein mediated presentation of exogenous HIV antigen on HLA class I and class II. J Immunol 173(3):1987-93 (2004).
   *These authors contributed equally to this work.
10. **Norris PJ**, Moffett HF, Yang OO, Kaufmann DE, Clark MJ, Addo MM, Rosenberg ES. Beyond help: Direct effector functions of HIV-1-specific CD4+ T cells. J Virol 78(16):8844-51 (2004).
11. Zavala-Ruiz Z, Strug I, Walker BD, **Norris PJ**, Stern LJ. A hairpin turn in a class II MHC-bound peptide orients residues outside the binding groove for T cell recognition. PNAS 101(36):13279-84 (2004).
12. McEvers K, Elrefaei M, **Norris PJ**, Deeks S, Martin J, Lu Y, Cao H. Modified anthrax fusion proteins deliver HIV antigens through MHC Class I and II pathways. Vaccine 23(32): 4128-35 (2005).
13. **Norris PJ**, Stone JD, Anikeeva N, Heitman JW, Wilson IC, Hirschkorn DF, Clark MH, Moffett HF, Cameron TO, Sykulev Y, Stern LJ, Walker BD. Antagonism of HIV-specific CD4+T cells by C-terminal truncation of a minimum epitope. Mol Immunol 43(9):1349-57 (2006).
14. Killian SM, **Norris PJ**, Rawal BD, Lebedeva M, Hecht FM, Levy JA, Busch, MP. The effect of early antiretroviral therapy on and its discontinuation on HIV-specific antibody responses. AIDS Res Hum Retroviruses Jul;22(7):640-7 (2006).
15. **Norris PJ**, Pappalardo BL, Custer B, Spotts G, Hecht FM, Busch MP. Elevations in IL-10, TNF-α, and IFN-γ from the earliest point of HIV-1 infection. AIDS Res Hum Retroviruses Aug;22(8)757-62 (2006).
16. Williams JG, Tomer KB, Hioe CE, Zolla-Pazner S, **Norris PJ**. The antigenic determinants on HIV p24 for CD4+ T cell inhibiting antibodies as determined by limited proteolysis, chemical modification, and mass spectrometry. J Am Soc Mass Spectrom Nov;17(11):1560-9 (2006).

17. Reed W, Lee T-H, **Norris PJ**, Utter GH, Busch MP. Transfusion-Associated Microchimerism: A New Complication of Blood Transfusions in Severely Injured Patients. Seminars in Hematology: Vol 44(1):24-31 (2007).
18. Likos AM, Kelvin DJ, Cameron CM, Rowe T, Kuehnert MJ, **Norris PJ**. Influenza viremia and the potential for blood-borne transmission. Transfusion Jun; 47(6): 1080-8 (2007).
19. Tang S, Zhao J, Storhoff JJ, **Norris PJ**, Little RF, Yarchoan R, Stramer SL, Patno T, Domanus M, Dhar A, Mirkin CA, Hewlett IK. Nanoparticle based biobarcode amplification assay (BCA) for sensitivity and early detection of human immunodeficiency type 1 capsid (p24) antigen. J AIDS Oct 1;46(2):231-237 (2007).
20. Owen RE, Sinclair E, Emu B, Heitman JW, Hirschkorn DF, Epling CL, Tan QX, Custer B, Harris JM, Jacobson MA, McCune JM, Martin JN, Hecht FM, Deeks SG, **Norris PJ**. Loss of T cell responses following long-term cryopreservation. J Imm Methods Sep 30;326(1-2):93-115 (2007).
21. Lanteri, MC, Heitman JW, Owen RE, Busch TA, Gefter N, Kiely N, Kamel HT, Tobler LH, Busch MP, and **Norris PJ**. Comprehensive analysis of West Nile virus T cell responses in human infection. J Infect Dis May 1;197(9):1296-1306 (2008).
22. Ndhlovu LC, Chapman JM, Jha AR, Snyder-Cappione JE, Pagan M, Leal FE, Boland BS, **Norris PJ**, Rosenberg MG, Nixon DF. Suppression of HIV-1 plasma viral load below detection preserves IL-17 producing T cells in HIV-1 infection. AIDS May 11;22(8):990-2 (2008).
23. Tobler LH, Cameron MJ, Lanteri MC, Prince HE, Danesh A, Persad D, Lanciotti RS, **Norris PJ**, Kelvin DJ, Busch MP. Interferon and interferon-induced chemokine expression is associated with control of acute viremia in West Nile virus-infected blood donors. J Infect Dis Oct 1;198(7):979-983 (2008).
24. Busch MP, Kleinman SH, Tobler LH, Kamel, HT, **Norris PJ**, Walsh I, Matud JL, Prince HE, Lanciotti RS, Wright DJ, Linnen JM. Viral and antibody dynamics in acute West Nile virus infection. J Infect Dis Oct 1;198(7):984-993 (2008).
25. Beal AM, Anikeeva N, Varma R, Cameron TO, **Norris PJ**, Dustin ML, Sykulev Y. PKCθ regulates stability of the peripheral adhesion ring junction and contributes to the sensitivity of target cell lysis by CTL. J Immunol Oct 1;181(7):4815-24 (2008).
26. **Norris PJ**, Lee J-H, Carrick D, Gottschall JL, Lebedeva M, de Castro BR, Kleinman SH, Busch MP, for the National Heart, Lung, and Blood Institute (NHLBI) Retrovirus Epidemiology Donor Study-II (REDS-II). Long-Term in vitro Reactivity for Human Leukocyte Antigen Antibodies and Comparison of Detection Using Serum versus Plasma. Transfusion, 49(2):243-251 (2009).
27. Hatano H, Delwart EL, **Norris PJ**, Lee T-H, Dunn-Williams J, Hunt PW, Hoh R, Stramer SL, Linnen JM, McCune JM, Martin JN, Busch MP, Deeks SG. Evidence for persistent low-level viremia in individuals who control HIV in the absence of antiretroviral therapy J Virol 83(1):329-335 (2009).
28. Stacey AR*, **Norris PJ***, Qin L, Haygreen EA, Taylor E, Heitman J, Lebedeva M, DeCamp A, Li D, Grove D, Self SG, Borrow P. Induction of a striking systemic cytokine cascade prior to peak viremia in acute HIV-1 infection, in contrast to more modest and delayed responses in acute hepatitis B and C virus infections. J Virol 83(8):3719-3733 (2009).
    *These authors contributed equally to this work.
29. Triulzi DJ, Kleinman S, Kakaiya RM, Busch MP, **Norris PJ**, Steele WR, Glynn SA, Hillyer CD, Carey P, Gottschall JL, Murphy EL, Rios J, Ness PM, Wright DJ, Carrick D, Schreiber GB. The Effect of Previous Pregnancy and Transfusion on HLA Alloimmunization in Blood Donors: Implications for a Transfusion Related Acute Lung Injury (TRALI) Risk Reduction Strategy. Transfusion (in press).
30. Jackman RP, Heitman JW, Marschner S, Goodrich RP, **Norris PJ**. Understanding loss of donor white blood cell immunogenicity following pathogen reduction: mechanisms of action in UV illumination and riboflavin treatment. Transfusion (in press).

C. Research Support

Ongoing Research Support.

2 U01-AI-042590-11 (Gange) 12/01/07-11/30/12
NIH
Women's Interagency HIV Study (WIHS) IV
The WIHS cohort provides longitudinal assessment of women with and without HIV. This unique cohort is used to answer questions about predictors of HIV disease outcome.

Role: Co-Investigator

1 U01-AI-067854 (Haynes) 10/01/05 - 06/30/10
NIH/NIAID
Center for HIV/AIDS Vaccine Immunology (CHAVI)
The major goals of this project are to characterize the evolution of the innate and early T cell immune responses from the earliest point of HIV infection by studying HIV-infected paid plasma donors.
Role: Co-Investigator

R01-HL-083388-01A1 (Busch) 09/01/06 - 07/31/10
NIH/NHLBI
Mechanisms and clinical effects of microchimerism in transfused trauma patients
The objectives of the study are to demonstrate the clinical effects of persisting donor white blood cells in transfusion recipients and the immune mechanisms responsible for donor cell persistence.
Role: Co-Investigator

R01-HL-062235 (Murphy) 04/05/05 - 03/31/09
NIH/NHLBI
Pathophysiology of HTLV-I and HTLV-II Infection (HOST)
The major goals of the study are to characterize the natural history of HTLV-I and –II infection in a longitudinal cohort of asymptomatic subjects identified through blood donation screening.
Role: Co-Investigator

N01 HB-057181 (Busch) 03/15/05 - 08/31/10
NIH/NHLBI
Retrovirus Epidemiology Donor Study (REDS) - II Central Laboratory
BSRI will establish and maintain a central laboratory for all REDS specimen testing. Specific projects include testing for anti-HLA antibodies in blood donors and testing for influenza viremia in donor populations.
Role: Co-Investigator

P30-AI027763 (Greene, Volberding) 09/15/07 - 08/31/12
NIH/NIAID
UCSF/GIVI Center for AIDS Research (CFAR)
The grant provides salary support for my role as Associate Director of the CFAR.
Role: Co-Investigator

1R0 HL-095130-01 (Hsue) 09/25/08 - 06/30/13
NIH/NHLBI
Title: Inflammation, Viral Replication, and Atherosclerosis in Treated HIV Infection
The project will explore the influence of inflammation on atherosclerosis in treated HIV infection.
Role: Co-Investigator

R01 HL-095140-01 (Kaplan) 09/25/08 - 06/30/13
NIH/NHLBI
Inflammatory and Immune Mechanisms of Atherosclerosis in HIV-Infected Women
The project will explore the influence of inflammation on atherosclerosis in women with HIV infection.
Role: Co-Investigator

Completed Research Support.
Navigant Biotechnologies (Norris) 12/01/07-11/30/08

The sponsored research agreement with Navigant will define the mechanism by which pathogen reduction methods abrogate antigen presenting capacity of treated mononuclear cells.
Role: PI