

**BIOGRAPHICAL SKETCH**

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NAME: SULLIVAN, JOHN Lewis

eRA COMMONS USER NAME (credential, e.g., agency login): IMMUNO

POSITION TITLE: Associate Director of Mentoring, MD/PhD Program

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
LeMoyne College	BS	06/1968	
SUNY Upstate Medical School	MD	06/1972	
University of Washington, WA	Resident	06/1973	Pediatrics
National Institutes of Health, Bethesda, MD	Fellow	06/1975	Virology/Immunology
University of Washington, Seattle, WA	Resident	06/1976	Pediatrics
University of Washington, Seattle, WA	Fellow	06/1978	Immunology/Rheumatology

**A. Personal Statement**

Dr. Sullivan has an established record as a physician scientist in the fields of immunology and virology. He served as the Chief Scientific Officer of the University of Massachusetts Medical School for more than a decade(2000-2012) and was funded by the NIH for more than 30 years serving as PI of RO1's, program projects and center grants including the medical school's first Clinical and Translational Science award.

1. Li W, Moore MJ, Vasilieva N, Sui J, Wong SK, Berne MA, Somasundaran M, Sullivan JL, Luzuriaga K, Greenough TC, Choe H, Farzan M. Angiotensin-converting enzyme 2 is a functional receptor for the SARS coronavirus. *Nature*. 2003 Nov 27;426(6965):450-4. PubMed Central PMCID: PMC7095016.
2. Merluzzi VJ, Hargrave KD, Labadia M, Grozinger K, Skoog M, Wu JC, Shih CK, Eckner K, Hattox S, Adams J. Inhibition of HIV-1 replication by a nonnucleoside reverse transcriptase inhibitor. *Science*. 1990 Dec 7;250(4986):1411-3. PubMed PMID: 1701568.
3. Biron CA, Byron KS, Sullivan JL. Severe herpesvirus infections in an adolescent without natural killer cells. *N Engl J Med*. 1989 Jun 29;320(26):1731-5. PubMed PMID: 2543925.
4. Sullivan JL, Byron KS, Brewster FE, Baker SM, Ochs HD. X-linked lymphoproliferative syndrome. Natural history of the immunodeficiency. *J Clin Invest*. 1983 Jun;71(6):1765-78. PubMed Central PMCID: PMC370382.

**B. Positions, Scientific Appointments and Honors****Positions and Scientific Appointments**

2016 -	Associate Director of Mentoring, MD/PhD Program , University of Massachusetts Medical School
2012 -	Senior Scientific Advisor, Program in Molecular Medicine, University of Massachusetts Medical School
2004 - 2008	AIDS Research Review Committee, NIH, Bethesda, MD
1999 - 2012	Chief Scientific Officer, University of Massachusetts Medical School
1998 - 1999	Council, Clinical Immunology Society, Baltimore , MD
1997 - 2004	Scientific Advisory Board, Children's National Medical Center, Washinton, DC
1993 - 1999	Scientific Advisory Board, Pediatric AIDS Foundation, Los Angeles, CA
1992 - 2000	Member, Medical Advisory Board, Immune Deficiency Foundation, Baltimore, MD
1992 - 1993	Member, Executive Committee, NIH, AIDS Clinical Trials Group, Bethesda, MD

1990 - 1992 AIDS and Related Research Study Section, NIH, Bethesda, MD  
1989 - Professor, Program in Molecular Medicine, University of Massachusetts Medical School  
1986 - Professor of Pediatrics, University of Massachusetts Medical School, Worcester, MA  
1982 - 1986 Associate Professor of Pediatrics, University of Massachusetts Medical School, Worcester, MA  
1982 - 1986 Immunological Sciences Study Section, NIH, Bethesda, MD  
1978 - 1982 Assistant Professor of Pediatrics, University of Massachusetts Medical School, Worcester, MA

## **Honors**

2014 Fellow American Association for Advancement of Science, AAAS  
2010 Chancellor's Medal for Distinguished Service, University of Massachusetts Medical School  
2003 Manuel Carballo Governor's Award for Excellence in Public Service, Massachusetts  
1999 Prevention of Mother-to-Child Transmission Recognition Award, Global Strategies  
1988 Distinguished Professional Public Service Award, University of Massachusetts  
1986 Governor's Recognition Award for AIDS Research, Massachusetts

## **C. Contribution to Science**

1. My early research experience, including my post-doctoral years at the NIH, focused on the interactions of viruses with the immune system and host immune responses. These studies included in vitro and in vivo studies of measles virus, influenza virus and Epstein-Barr virus in animal models and humans.
  - a. Sullivan JL, Mayner RE, Barry DW, Ennis FA. Influenza virus infection in nude mice. *J Infect Dis.* 1976 Jan;133(1):91-4. PubMed PMID: 1082002.
  - b. Royston I, Sullivan JL, Periman PO, Perlin E. Cell-mediated immunity to Epstein-Barr-virus-transformed lymphoblastoid cells in acute infectious mononucleosis. *N Engl J Med.* 1975 Dec 4;293(23):1159-63. PubMed PMID: 171568.
  - c. Sullivan JL, Barry DW, Lucas SJ, Albrecht P. Measles infection of human mononuclear cells. I. Acute infection of peripheral blood lymphocytes and monocytes. *J Exp Med.* 1975 Sep 1;142(3):773-84. PubMed Central PMCID: PMC2189913.
  - d. Sullivan JL, Barry DW, Albrecht P, Lucas SJ. Inhibition of lymphocyte stimulation by measles virus. *J Immunol.* 1975 May;114(5):1458-61. PubMed PMID: 804515.
2. After joining the University of Massachusetts Medical School, I continued to study the pathogenesis of Epstein-Barr Virus (EBV) and primary immunodeficiency disorders. During this time we described the pathogenesis of X-Linked Lymphoproliferative Syndrome and one of the first patient's with recurrent herpes virus infections and complete absence of NK cells. We also studied the immune responses of adolescents experiencing acute EBV infections.
3. In 1981, following the first descriptions of patients with AIDS, I became interested in this new immunodeficiency that was initially thought to result from a overwhelmed immune system by multiple herpes virus infections. We pursued studies in patients with hemophilia and AIDS. Following the isolation of HIV in 1984, we began to care for children infected with HIV. Our initial studies focused on the immunopathogenesis of HIV and defining maternal to child transmission of HIV.
  - a. Kitchen LW, Barin F, Sullivan JL, McLane MF, Brettler DB, Levine PH, Essex M. Aetiology of AIDS--antibodies to human T-cell leukaemia virus (type III) in haemophiliacs. *Nature.* 1984 Nov 22-28;312(5992):367-9. PubMed PMID: 6095094.
  - b. Kirchhoff F, Greenough TC, Brettler DB, Sullivan JL, Desrosiers RC. Brief report: absence of intact nef sequences in a long-term survivor with nonprogressive HIV-1 infection. *N Engl J Med.* 1995 Jan 26;332(4):228-32. PubMed PMID: 7808489.
  - c. Pikora CA, Sullivan JL, Panicali D, Luzuriaga K. Early HIV-1 envelope-specific cytotoxic T lymphocyte responses in vertically infected infants. *J Exp Med.* 1997 Apr 7;185(7):1153-61. PubMed Central PMCID: PMC2196268.

- d. Luzuriaga K, Wu H, McManus M, Britto P, Borkowsky W, Burchett S, Smith B, Mofenson L, Sullivan JL. Dynamics of human immunodeficiency virus type 1 replication in vertically infected infants. *J Virol*. 1999 Jan;73(1):362-7. PubMed Central PMCID: PMC103841.
4. As the AIDS epidemic gathered steam and we were caring for many infants and children infected with HIV and we began a collaboration with Boehringer - Ingelheim Pharmaceuticals to discover new therapeutic agents. This collaboration led to the discovery of nevirapine in 1990 and we performed the first in human studies of nevirapine at UMass. We continued to carry out clinical trials with nevirapine through FDA approval in 1996. In addition, I served as the PI of the Western New England Pediatric AIDS Clinical Trials Unit of the NIH AIDS Clinical Trials Group.
  - a. Merluzzi VJ, Hargrave KD, Labadia M, Grozinger K, Skoog M, Wu JC, Shih CK, Eckner K, Hattox S, Adams J, Rosenthal AS, Faanes R, Eckner RJ, Koup RA, and Sullivan JL. Inhibition of HIV-1 replication by a nonnucleoside reverse transcriptase inhibitor. *Science*. 1990 Dec 7;250(4986):1411-3. PubMed PMID: 1701568.
  - b. Sperling RS, Shapiro DE, Coombs RW, Todd JA, Herman SA, McSherry GD, O'Sullivan MJ, Van Dyke RB, Jimenez E, Rouzioux C, Flynn PM, Sullivan JL. Maternal viral load, zidovudine treatment, and the risk of transmission of human immunodeficiency virus type 1 from mother to infant. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group. *N Engl J Med*. 1996 Nov 28;335(22):1621-9. PubMed PMID: 8965861.
  - c. Luzuriaga K, Bryson Y, Krogstad P, Robinson J, Stechenberg B, Lamson M, Cort S, Sullivan JL. Combination treatment with zidovudine, didanosine, and nevirapine in infants with human immunodeficiency virus type 1 infection. *N Engl J Med*. 1997 May 8;336(19):1343-9. PubMed PMID: 9134874.
  - d. Luzuriaga K, McManus M, Mofenson L, Britto P, Graham B, Sullivan JL. A trial of three antiretroviral regimens in HIV-1-infected children. *N Engl J Med*. 2004 Jun 10;350(24):2471-80. PubMed PMID: 15190139.
5. Following the discovery of nevirapine, my pediatric experiences led me to propose that nevirapine be used to prevent mother to child transmission in the developing world. We continued to work with Boehringer-Ingelheim and carried out clinical trials to test this concept into the 21st century when single dose nevirapine became the standard of care in the developing world for the prevention of mother to child transmission of HIV-1.
  - a. Mirochnick M, Fenton T, Gagnier P, Pav J, Gwynne M, Siminski S, Sperling RS, Beckerman K, Jimenez E, Yogev R, Spector SA, Sullivan JL. Pharmacokinetics of nevirapine in human immunodeficiency virus type 1-infected pregnant women and their neonates. Pediatric AIDS Clinical Trials Group Protocol 250 Team. *J Infect Dis*. 1998 Aug;178(2):368-74. PubMed PMID: 9697716.
  - b. Dorenbaum A, Cunningham CK, Gelber RD, Culnane M, Mofenson L, Britto P, Rekacewicz C, Newell ML, Delfraissy JF, Cunningham-Schrader B, Mirochnick M, Sullivan JL. Two-dose intrapartum/newborn nevirapine and standard antiretroviral therapy to reduce perinatal HIV transmission: a randomized trial. *JAMA*. 2002 Jul 10;288(2):189-98. PubMed PMID: 12095383.
  - c. Cunningham CK, Chaix ML, Rekacewicz C, Britto P, Rouzioux C, Gelber RD, Dorenbaum A, Delfraissy JF, Bazin B, Mofenson L, Sullivan JL. Development of resistance mutations in women receiving standard antiretroviral therapy who received intrapartum nevirapine to prevent perinatal human immunodeficiency virus type 1 transmission: a substudy of pediatric AIDS clinical trials group protocol 316. *J Infect Dis*. 2002 Jul 15;186(2):181-8. PubMed PMID: 12134253.
  - d. Moodley D, Moodley J, Coovadia H, Gray G, McIntyre J, Hofmyer J, Nikodem C, Hall D, Gigliotti M, Robinson P, Boshoff L, Sullivan JL. A multicenter randomized controlled trial of nevirapine versus a combination of zidovudine and lamivudine to reduce intrapartum and early postpartum mother-to-child transmission of human immunodeficiency virus type 1. *J Infect Dis*. 2003 Mar 1;187(5):725-35. PubMed PMID: 12599045.