

Curriculum Vitae  
(short version)  
Andrew Murdin, Ph.D.

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**Bio**

Before founding Murdin Biotechnology Consulting Inc. in 2010, Andrew Murdin held the position of Senior Director, External R&D with sanofi pasteur, the world's largest vaccine manufacturer. In this role he was based in Toronto, Canada, and was the senior member of sanofi pasteur's North American External R&D team, responsible for identifying and evaluating novel scientific and technological developments by groups external to sanofi pasteur that were potential in-licensing or acquisition opportunities for sanofi pasteur. He was a member of sanofi pasteur's global Senior Leadership Team from 2007 to 2010.

Until August of 2002 Dr. Murdin was Section Head (Pathogenesis Section) within the Microbiology Platform of sanofi pasteur, also based in Toronto, and was Project Leader for the sanofi pasteur Chlamydia vaccine project. He has extensive experience in the fields of chlamydia and poliovirus vaccine research, and has played a leading role in chlamydia vaccine development at sanofi pasteur.

Dr Murdin is currently a member of the Scientific Advisory Boards of Fondations Innovations en Infectiologie (FINOVI), Lyon, France and of Profectus Biosciences Inc, Baltimore, USA.

**Career History**

**September 2010 -**

President,  
Murdin Biotechnology Consulting Inc.  
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MBCI provides scientific and technical opinions to senior managers in the biotechnology and pharmaceutical sectors in support of decision making around corporate strategy and corporate deal-making. MBCI also provides insight and advice into the business partnering practices of large pharma and biotech companies.

**June 1990 to December 2010**

Sanofi Pasteur  
1755 Steeles Avenue West,  
Toronto,  
ON M2R 3T4, Canada

January 2007 – December 2010: Senior Director, External R&D  
September 2002 – December 2006: Director, External R&D  
January 1999 - August 2002: Principal Research Scientist and Section Head  
January 1997 - December 1998: Senior Research Scientist and Section Head  
January 1994 – December 1996: Senior Research Scientist  
June 1990 to December 1993: Research Scientist

Sanofi Pasteur is the vaccines division of sanofi-aventis Group. It is the largest company in the world devoted entirely to vaccines.

**January 1998 to June 1990**

Post-Doctoral Researcher, State University of New York, Stony Brook, NY, USA  
(Molecular Biology of Poliovirus; Application of Poliovirus as a Vaccine Vector)

**June 1985 to December 1987**

Post-Doctoral Researcher, University of Surrey, Guildford, Surrey, UK (Large-Scale Mammalian Cell Culture)

**January 1981 to June 1985**

Scientific Officer, Animal Virus Research Institute, Pirbright, Surrey, UK  
(Veterinary Vaccine Development)

**Academic qualifications.**

**Ph.D.** (Veterinary Vaccines) University of Surrey, UK, 1986  
**B.Sc.** (Applied Biology) University of Bath, UK, 1980

## **Publications (excluding abstracts, presentations, etc.)**

1. Murdin AD and Brunham RC. Chlamydia vaccines. Chapter 68 in *New Generation Vaccines*, Ed. M.M.Levine et al. Pub. Marcel Dekker, 2004.
2. Murdin AD, Rovinski B and Sambhara S. Inactivated Virus Vaccines. Chapter 8 in *New Vaccine Technologies*, Ed. R.W. Ellis. Pub. Landes Bioscience, Georgetown, TX, 2001.
3. Liu L, Hu H, Ji H, Murdin AD, Pierce GN, Zhong G. Chlamydia pneumoniae infection significantly exacerbates aortic atherosclerosis in an LDLR<sup>-/-</sup> mouse model within six months. *Mol Cell Biochem*. 2000 Dec;215(1-2):123-8
4. Igietseme J and Murdin AD, Protection against Chlamydia trachomatis genital disease by a MOMP-ISCOM-based vaccine. *Infect Immun*. 2000 Dec;68(12):6798-806.
5. Kaushic C, Zhou F, Murdin AD, Wira CR. Effects of estradiol and progesterone on susceptibility and early immune responses to Chlamydia trachomatis infection in the female reproductive tract. *Infect Immun*. 2000 Jul;68(7):4207-16.
6. Murdin AD, Gellin B, Brunham RC, Campbell LA, Christiansen G, Deal CD, Jenson HB, Metcalf B, Sankaran B, Stephens RS, Wilfert C. Collaborative multidisciplinary workshop report: progress toward a Chlamydia pneumoniae vaccine. *J Infect Dis*. 2000 Jun;181 Suppl 3:S552-7.
7. Murdin AD, Dunn P, Sodoyer R, Wang J, Caterini J, Brunham RC, Aujame L, Oomen R. Use of a mouse lung challenge model to identify antigens protective against Chlamydia pneumoniae lung infection. *J Infect Dis*. 2000 Jun;181 Suppl 3:S544-51.
8. Dong-Ji Z, Yang X, Shen C, Lu H, Murdin A, Brunham RC. Priming with Chlamydia trachomatis major outer membrane protein (MOMP) DNA followed by MOMP ISCOM boosting enhances protection and is associated with increased immunoglobulin A and Th1 cellular immune responses. *Infect Immun*. 2000 Jun;68(6):3074-8.
9. SA. Plotkin, A Murdin, E Vidor. Inactivated Polio Vaccine. Chapter 15 in *Vaccines*, 3rd edition, Ed. Stanley A. Plotkin, M.D. and Walter A. Orenstein, M.D. Pub. W. B. Saunders, Philadelphia, 1999.
10. Kaushic C, et al. Chlamydia trachomatis infection in the female reproductive tract of the rat: influence of progesterone on infectivity and immune response. *Infect Immun*. 1998 Mar; 66(3): 893-898.
11. Murdin AD, et al. Inactivated poliovirus vaccine: past and present experience. *Vaccine*. 1996 Jun; 14(8): 735-746.
12. Hovi T, et al. Isolation of escape mutants of a hybrid poliovirus with the aid of insert-specific polyclonal antibodies. *J Gen Virol*. 1995 Jul; 76( Pt 7): 1861-1865.
13. Murdin AD, et al. Poliovirus hybrids expressing neutralization epitopes from variable domains I and IV of the major outer membrane protein of Chlamydia trachomatis elicit broadly cross-reactive C. trachomatis-neutralizing antibodies. *Infect Immun*. 1995 Mar; 63(3): 1116-1121.
14. Lu HH, et al. Mouse neurovirulence determinants of poliovirus type 1 strain LS- a map to the coding regions of capsid protein VP1 and proteinase 2Apr. *J Virol*. 1994 Nov; 68(11): 7507-7515.

15. Murdin AD, et al. A poliovirus hybrid expressing a neutralization epitope from the major outer membrane protein of *Chlamydia trachomatis* is highly immunogenic. *Infect Immun.* 1993 Oct; 61(10): 4406-4414.
16. Mason PW, et al. Antibody-complexed foot-and-mouth disease virus, but not poliovirus, can infect normally insusceptible cells via the Fc receptor. *Virology.* 1993 Feb; 192(2): 568-577.
17. Murdin AD, et al. Poliovirus vaccination schedules and reversion to virulence. *J Infect Dis.* 1992 Oct; 166(4): 935-936.
18. Murdin AD, et al. Poliovirus antigenic hybrids simultaneously expressing antigenic determinants from all three serotypes. *J Gen Virol.* 1992 Mar; 73( Pt 3): 607-611.
19. Altmeyer R, et al. Construction and characterization of a poliovirus/rhinovirus antigenic hybrid. *Virology.* 1991 Oct; 184(2): 636-644.

Plus 11 further publications, 40 granted US patents, 50 pending US patent applications, over 250 patents and patent applications worldwide.