

Ann M. Sheehy
College of the Holy Cross
Department of Biology
1 College Street
Worcester, MA 01610
Office: 508.793.2255
asheehy@holycross.edu

Positions and Honors.

Professional Experience:

College of the Holy Cross, Worcester, MA Assistant Professor , Biology Department	2005-present
King's College London, London, UK Senior Research Associate , Infectious Diseases	2002-2005
University of Pennsylvania, Philadelphia, PA Postdoctoral Fellow , Molecular Virology Advisor: Michael H. Malim, D. Phil.	1998-2002
Johns Hopkins School of Medicine, Baltimore, MD Graduate student , Ph.D., Immunology Advisor: Mark S. Schlissel, M.D., Ph.D. Thesis Dissertation, "The role of the NF- κ B DNA-binding site and the <i>rel</i> family of transcription factors in B cell development."	1991-1998
Upjohn Pharmaceuticals, Kalamazoo, MI Research Intern , Drug Delivery Systems Research Department Advisor: Mary J. Ruwart, Ph.D., Investigation and characterization of the intrapulmonary delivery of renin and HIV protease inhibitors.	January-August 1991

Awards:

2007	Invited Keynote Speaker, Immunology Retreat, Johns Hopkins School of Medicine
2004	Invited Speaker, XIV International AIDS Conference, Barcelona, Spain
2002	Invited Speaker, 11 th Conference on Retroviruses and Opportunistic Infections, San Francisco
2002	Royal Society Research Fellowship, Royal Society, UK
2000	National Research Service Award (NRSA) Fellow
1997	Gordon Conference Student Travel Award
1997	Award-winning poster: NF- κ B and the decision between life and death
1991	Honors in Department of Biology (Kalamazoo College)
1991	Henry Lee Stetson Fellowship

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1987-1991 Heyl Scholarship

Abstracts

Farrow, Melissa, Stanton, Jennifer, Wolinsky, Steven, and Sheehy, Ann. (2009). NFAT and IRF regulate basal APOBEC3G expression by a tissue specific promoter. Cold Spring Harbor, NY.

Oral presentation.

Arata, Michelle*, Farrow, M., Geoghegan, E*., and Sheehy, A. (2009). A Comprehensive Mutational Analysis of APOBEC3G, an Anti-HIV Protein. Montreal, Canada. **Poster Presentation.**

Farrow, M., Geoghegan, E*., Espinola, D*., McKernan, S*., and Sheehy, A. (2007). Comprehensive Mutational Analysis of APOBEC3G. Los Angeles, CA. **Poster Presentation.**

Sheehy, Ann. (2004). Regulation of APOBEC3G by Vif. 11th Conference on Retroviruses and Opportunistic Infections. San, Francisco, CA. **Invited Speaker.**

Sheehy, A.M. and Malim, M.H. (2002) The identification of cellular host factors that contribute to the HIV-1 Vif Phenotype. XIV International AIDS Conference. Barcelona, Spain. **Invited Speaker.**

Sheehy, A.M. and Malim, M.H. (2002) The identification of cellular host factors important for the HIV-1 Vif Phenotype. 9th Conference on Retroviruses and Opportunistic Infections. Seattle, WA. **Oral presentation.**

Sheehy, A.M. and Malim, M.H. (2001) The interaction of cellular host factors with HIV Vif. Cold Spring Harbor Retroviruses Meeting. Cold Spring Harbor, NY. **Oral presentation.**

(*indicates undergraduate co-author)

Selected Publications:

Farrow, Melissa A., Kim, Eun-Young, Wolinsky, Steven M., and **Sheehy, Ann M.** (2010). NFAT and IRF proteins regulate the transcription of the anti-HIV gene, *APOBEC3G*. *Manuscript submitted.*

Sheehy, Ann M. (2008). Genes and screens: the search for novel chemotherapeutic targets. *Future HIV Ther.* 2: 259-261.

Farrow, MA and **Sheehy, AM.** (2008) Vif and Apobec3G in the innate immune response to HIV: a tale of two proteins. *Future Microbiol.* 3: 145-54.

Sheehy, Ann M. (2008). "Antiviral function of APOBEC3 Cytidine Deaminases." *RNA and DNA Editing Molecular Mechanisms and Their Integration into Biological Systems.* Ed. Harold C. Smith. Wiley-Interscience. 231-254.

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Newman, Edmund N.C., Holmes, Rebecca K., Craig, Heather M., Klein, Kevin C., Lingappa, Jaisiri R., Malim, Michael H., and **Sheehy, Ann M.** (2005). Anti-Viral Function of APOBEC3G can be Dissociated from Cytidine Deaminase Activity. *Curr. Biol.*, 15: 166-170.

Gaddis, Nathan C., **Sheehy, Ann M.**, Ahmad, K. Muneer, Swanson, Chad M., Bishop, Kate N., Beer, Brigitte E., Marx, Preston A., Gao, Feng, Bibollet-Ruche, Frederic, Hahn, Beatrice H., and Malim, Michael H. (2004). Further Investigation of Simian Immunodeficiency Virus Vif Function in Human Cells. *J. Virol.* 78: 12041-12046.

Bishop, Kate N., Holmes, Rebecca K., **Sheehy, Ann M.**, and Malim, Michael, H. (2004). APOBEC-Mediated Editing of Viral RNA. *Science* 305: 645.

Bishop, Kate N., Holmes, Rebecca K., **Sheehy, Ann M.**, Davidson, Nicholas O., Cho, Soo-Jin, and Malim, Michael H. (2004). Cytidine Deamination of Retroviral DNA by Diverse APOBEC Proteins. *Curr. Biol.* 14: 1392-96.

Sheehy, Ann M., Gaddis, Nathan C., and Malim, Michael H. (2003). The antiretroviral enzyme APOBEC3G is degraded by the proteasome in response to HIV-1 Vif. *Nat. Med.* 9: 1404-7.

Harris RS, **Sheehy AM**, Craig HM, Malim MH, Neuberger MS. (2003). DNA deamination: not just a trigger for antibody diversification but also a mechanism for defense against retroviruses. *Nat. Immunol.* 4: 641-3.

Harris RS, Bishop KN, **Sheehy AM**, Craig HM, Petersen-Mahrt SK, Watt IN, Neuberger MS, Malim M.H. (2003). DNA deamination mediates innate immunity to retroviral infection. *Cell* 113: 803-9.

Gaddis, N.C., Chertova, E., **Sheehy, A.M.**, Henderson, L.E. and Malim, M.H. (2003) Comprehensive Investigation of the Molecular Defect in *vif*-Deficient Human Immunodeficiency Virus Type 1 Virions. *J. Virol.* 77: 5810-5820.

Sheehy, Ann M., Gaddis, Nathan C., Choi, Jonathan D. and Malim, Michael H. (2002). Isolation of a human gene that inhibits HIV-1 infection and is suppressed by the viral Vif protein. *Nature* 418: 646-650.

Sheehy, Ann M. and Mark S. Schlissel. (1999). Overexpression of RelA causes G1 arrest and apoptosis in a pro-B cell line. *JBC* 274: 8707-8716.

Simon, James, H.M., **Sheehy, Ann M.**, Carpenter, Elise A., Fouchier, Ron A.M., and Michael H. Malim. (1999). Mutational Analysis of the Human Immunodeficiency Virus Type-1 Vif Protein. *J. Virol.* 73(4): 2675-2681.

Bain, Gretchen, Maandag, Els C. Robanus, te Riele, Hein P.J., Feeney, Ann J., **Sheehy, Ann**, Schlissel, Mark, Shinton, Susan A., Hardy, Richard R., and Cornelius Murre. (1997). Both E12 and E47 Allow Commitment to the B Cell Lineage. *Immunity* 6: 145-154.

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Sheehy, A.M., Hoover, J.L., Rush, B.D., Wilkinson, K.F., Vidmar, T.J., and Mary J. Ruwart. (1993). Intrapulmonary delivery of renin inhibitory peptides results in sustained release because of saturable transport. *Pharm Res.* 10: 1548-1551.

Recent and Ongoing Research Support :

Smith Family Awards for Excellence in Biomedical Research Program

Sheehy (PI)

December 2007-August 2010

The Medical Foundation, Boston, MA

“Harnessing the power of the anti-HIV protein, APOBEC3G

The goals of this project are to identify important regulatory elements that control APOBEC3G gene expression as well as to identify regions of the protein that may be targeted for therapeutic intervention.

Role: PI

P30 AI42845 Sheehy (PI)

July 2005 – June 2008

Center for AIDS Research, UMass, Worcester, MA

APOBEC3G investigation and resistance to viral infection

The goals of this project are to identify and characterize the regulatory elements of the anti-viral factor, APOBEC3G

Role: PI

14425 Sheehy (PI)

August 2002 – July 2005

The Royal Society

“The identification of cellular host factors important to the HIV-1 Vif Phenotype”

This fellowship was awarded to foster international collaboration between the US and the UK.

The goal of the project was to investigate innate host defense proteins involved in resisting an HIV-1 infection.

Role: PI

F32 AI10460-03 Sheehy (PI)

June 2000-August 2002

National Research Service Award/NIH (NIAID)

“The interaction of cellular host factors with HIV Vif”

This fellowship was awarded to identify cellular host factors which interact with HIV-1 or mediate its function.

Role: PI