

**Sandra Sharpe Cohen**  
401 1<sup>st</sup> Avenue, New York, NY 10010  
sac2036@med.cornell.edu  
212-889-5543  
mobile 914-506-1801

**Experience:**

2016-Present: **Senior Research Specialist, Department of Pathology and Laboratory Medicine, Weill Cornell Medicine**

- Studies evaluating the role of NEAT1 lnc-RNA in DDR, roles of REST and SWI/SNF in NEPC,
- Functional evaluation of BCL6 small molecule inhibitors
- Interface between collaborators, WCM, and TRP to insure seamless workflow

1999-2015: **Assistant Research Scientist, Department of Pathology, New York University School of Medicine**

- Independent and/or collaborative design and completion of research projects resulting in: increased understanding of the effects of single amino acid mutations on glycoprotein structure and antibody recognition, generation and characterization of a human HIV-specific T cell line panel for use in HIV functional studies, and identification and characterization of an immunodominant site in the V2 region of HIV-1.
- Evaluation, interpretation, graphic presentation of data, and statistical data analysis
- Methodological troubleshooting and creative problem solving
- Novel assay development
- Organization and coordination of space/personnel among 5 PIs, 25 research staff members, foreign fellows and students to ensure maximal productivity with reference to time constraints and multi-user equipment, and maintenance of lab meeting rotational schedule
- Supervision and training of Post Docs, students and new lab members
- Lab Radiation Safety Officer
- Equipment maintenance and service contract initiation
- Purchasing and receiving lab equipment, reagents, and supplies, account justification

1997-1999: **Biologist, GS 11/10 Dermatology Branch/NCI/NIH**

- Design and completion of novel and established research protocols providing advances in the areas of HIV immunosuppression, HIV microbicides, Kaposi's Sarcoma, and dendritic cell function in HIV
- Significant collaborative work outside Branch
- Research volunteer scheduling and consenting
- Training Post Docs and technicians

1995-1997: **Chemist, GS 11/9 EIB/NCI/NIH**

- Design and implementation of established research protocols
- Literature search
- Purchasing and receiving lab equipment, reagents, and supplies
- Equipment maintenance

1989-1995: **Assistant Research Scientist, Department of Pathology, New York University School of Medicine**

- Independent and/or collaborative design and implementation of research projects
- Equipment maintenance
- Lab Radiation Safety Officer
- Purchasing and receiving lab equipment, reagents, and supplies

1980-1989: **Research Technician, Department of Pathology, New York University School of Medicine**

- Implementation of research projects, data analysis and interpretation
- Purchasing and receiving lab equipment, reagents, and supplies

**Education:**

1976-1980, Michigan State University, B.S. Zoology, 1980

## **Sandra Sharpe Cohen p2**

### **Relevant Courses:**

- CRC Foundational Course

### **Languages spoken:**

- English and French

### **Laboratory skills:**

- Virology: HIV propagation, PBMC co-culture for primary virus isolation, HIV laboratory strain culture, HIV infectivity/neutralization assay development, HHV8-infected cell culture, HHV8/EBV-infected cell culture, HHV8 detection
- Immunology: ELISA, Western Blot, Radioimmunoprecipitation, Jerne Plaque Assay, proliferation assays, immunohistochemistry, CDC, ADCC assays, multiple marker cell staining for confocal microscopy or FACS analysis, antigen-specific T cell generation and characterization.
- Tissue Culture: Prostate organoid generation: mouse and human, PBMC isolation, cell depletion/enrichment, tumor cell culture, peripheral blood lymphocyte, monocyte, dendritic cell, fibroblast and Langerhans cell culture, and various rodent cell culture, cryopreservation, metabolic cell labelling, immunofluorescence
- Laboratory animal: prostate dissection, animal euthanasia, mouse and rat lymph node, bone marrow, spleen and blood harvest, rat surgery
- Protein Chemistry: SDS PAGE, gel filtration, anion exchange chromatography, radiolabelling of proteins, biotinylation of proteins
- Molecular Biology: QChIP, RNA/DNA extraction, siRNA, shRNA methods, PCR, RT-PCR, QPCR, primer design, site-directed mutagenesis, agarose gel electrophoresis, plasmid transfection, viral transduction
- Computer Skills: Weill Business Gateway ordering, iLabs manager, Proficient in IBM and Mac, Quattro Pro, Wordperfect, Word, Outlook, Excel, PowerPoint, InStat, Graphpad Prism, eProcurement, DNASTAR, Staden Package
- Training: WCM gamma-irradiator, BRB animal facility, FDNY C14 certification

**References upon request**

## BIBLIOGRAPHY

1. H. Mizuma, S. Zolla-Pazner, S. Litwin, W. el-Sadr, **S. Sharpe**, B. Zehr, S. Weiss, W.C. Saxinger, M. Marmor: Serum IgD elevation is an early marker of B cell activation during infection with the human immunodeficiency viruses. Clin. Exp. Immunol. **68**: 5-14, 1987.
2. M.K. Gorny, V. Gianakakos, **S. Sharpe**, S. Zolla-Pazner: Generation of human monoclonal antibodies to HIV. Proc. Natl. Acad. Sci., **86**: 1624-1628, 1989.
3. M.C. Stickler, **S. Sharpe**, S. Zolla-Pazner: p24 antibody production in p24 antibody-negative HIV-infected subjects. Virol. Immunol., **5**:123-132, 1992.
4. G.T. Spear, D.M. Takefman, **S. Sharpe**, M. Ghassemi, S. Zolla-Pazner: Antibodies to the HIV-1 V3 loop in serum from infected persons contribute a major proportion of immune effector functions including complement activation, antibody binding and neutralization. Virology, **204**:609-615, 1994.
5. S. Laal, S. Burda, **S. Sharpe**, and S. Zolla-Pazner: A rapid, automated microplate assay for measuring neutralization of HIV-1. AIDS Res. Human Retro., **9**: 781-785, 1993.
6. Y. Tani, E. Donoghue, **S. Sharpe**, E. Boone, H.C. Lane, S. Zolla-Pazner, D.I. Cohen: Enhanced in vitro HIV-1 replication in B cells expressing transfected HIV envelope gp41 receptor. J. Virol., **68**:1942-1950, 1994.
7. S. Zolla-Pazner, **S. Sharpe**: A neutralization assay for primary isolates of HIV-1 using resting lymphocytes as target cells. In Retroviruses of Human AIDS and Related Animal Diseases Neuvieme Colloque des Cent Gardes, pp. 161-5, 1994.
8. S. Zolla-Pazner, **and S. Sharpe**: A resting cell assay for improved detection of antibody-mediated neutralization of HIV-1 primary isolates. AIDS Res. Human Retro., **11**:1449-57, 1995.
9. S. Zolla-Pazner, C. Alving, R. Belshe, P. Berman, S. Burda, P. Chigurupati, M.L. Clements, A.-M. Duliege, J.-L. Excler, J. Kahn, M.J. McElrath, **S. Sharpe**, F. Sinangil, K. Steimer, M.C. Walker, N. Wassef, S. Xu: Neutralization of a clade B primary isolate by sera from HIV-uninfected recipients of candidate AIDS vaccines. Journal of Infectious Diseases, 1997.
10. L.A. Pinto, **S. Sharpe**, D.I. Cohen and G.M. Shearer: Alloantigen-stimulated anti-HIV activity. Blood, **92**:3346-3354, 1998.
11. **S.S. Cohen**, M.D. Weinstein, B.G. Herndier, G.J. Anhalt and A. Blauvelt: No evidence of human herpesvirus 8 infection in patients with paraneoplastic pemphigus, pemphigus vulgaris, or pemphigus foliaceus. Journal of Investigative Dermatology, **111**:781-783, 1998.

12. C. Chougnet, **S.S. Cohen**, T. Kawamura, A.L. Landay, H.A. Kessler, E. Thomas, A. Blauvelt and G.M. Shearer: Normal immune function of monocyte-derived dendritic cells from HIV-infected individuals: implications for immunotherapy. *J. Immunol.*, **163**:1666-1673, 1999.
13. **S.S. Cohen**, C.J. Li, L. Ding, Y. Cao, A.B. Pardee, E.M. Shevach and D.I. Cohen: Pronounced acute immunosuppression in vivo mediated by HIV Tat challenge. *Proc.Natl. Acad. Sci.*, **96**:10842-10847, 1999.
14. T. Lehrnbecher, C.B. Foster, S. Zhu, D. Venzon, S.M. Steinberg, K. Wyvill, J.A. Metcalf, **S.S. Cohen**, J. Kovacs, R. Yarchoan, A. Blauvelt, S.J. Chanock: Variant genotypes of FcγRIIIA influence the development of Kaposi's sarcoma in HIV-infected men. *Blood*, **95**: 2386-2390, 2000.
15. T. Kawamura, **S.S. Cohen**, D.L. Borris, E.A. Aquilino, S. Glushakova, L.B. Margolis, J.M. Orenstein, R.E. Offord, A.R. Neurath and A. Blauvelt: Candidate microbicides block HIV-1 infection of human immature Langerhans cells within epithelial tissue explants. *J. Exp. Med.*, **192**: 1491-500, 2000.
16. E. Greene, L.A. Pinto, **S.S. Cohen**, C. Mac Trubey, M.T. Trivett, T.B. Simonis, D.J. Liewehr, S.M. Steinberg, G.M. Shearer: Generation of alloantigen-stimulated anti-human immunodeficiency virus activity is associated with HLA-A\*02 expression. *J. Infect. Dis.*, **183**: 409-16, 2001
17. P.C. Chien, **S. Cohen**, C. Kleeberger, J. Giorgi, J. Phair, S. Zolla-Pazner and C. Hioe: High levels of antibodies to the CD4 binding domain of human immunodeficiency virus type 1 glycoprotein 120 are associated with faster disease progression. *J. Infect. Dis.*, **186**: 205-13, 2002.
18. M.K. Gorny, C. Williams, B. Volsky, K. Revesz, **S. Cohen**, V.R. Polis, W.J. Honnen, S.C. Krachmarov, A. Pinter, S. Zolla-Pazner: Human monoclonal antibodies specific for conformation-sensitive epitopes of V3 neutralize human immunodeficiency virus type 1 primary isolates from various clades. *J. Virol.*, **76**: 9035-45, 2002.
19. **S. Cohen**, M. Tuen and C. Hioe: Propagation of CD4 cells specific for human immunodeficiency virus type 1(HIV-1) envelope gp120 from chronically HIV-1-infected subjects. *AIDS Res. Human Retro.*, **19**: 793-806, 2003.
20. P.C. Chien, D. Chen, P.D. Chen, M. Tuen, **S. Cohen**, S.A. Migueles, M. Connors, E. Rosenberg, U. Malhotra, C. Gonzalez, C.E. Hioe: HIV-1-infected patients with envelope-specific lymphoproliferation or long-term nonprogression lack antibodies suppressing glycoprotein 120 antigen presentation. *J. Infect. Dis.*, **189**: 852-61, 2004.
21. P.C. Chien, **S. Cohen**, M. Tuen, J. Arthos, P.D. Chen, S. Patel, C.E. Hioe: Human immunodeficiency virus type 1 evades T-helper responses by exploiting antibodies that suppress antigen processing. *J. Virol.*, **78**:7645-52, 2004.
22. M.K. Gorny, L. Stamatatos, B. Volsky, K. Revesz, C. Williams, X.H. Wang, **S. Cohen**, R. Staudinger, S. Zolla-Pazner: Identification of a new quaternary neutralizing epitope on human immunodeficiency virus type 1 virus particles. *J. Virol.*, **79**: 5232-7, 2005.

23. M. Tuen, M.L. Visciano, P.C. Chien, **S. Cohen**, P.D. Chen, J. Robinson, Y. He, A. Pinter, M.K. Gorny, C.E. Hioe: Characterization of antibodies that inhibit HIV gp120 antigen processing and presentation. Eur. J. Immunol., 35: 2541-51, 2005.
24. G. Kaur, M. Tuen, D. Virland, **S. Cohen**, N.K. Mehra, C. Münz, S. Abdelwahab, A. Garzino-Demo, C.E. Hioe: Antigen stimulation induces HIV envelope gp120-specific CD4(+) T cells to secrete CCR5 ligands and suppress HIV infection. Virology, 369(1):214-25, 2007.
25. S. Zolla-Pazner, **S.S. Cohen**, C. Krachmarov, S. Wang, A. Pinter, S. Lu: Focusing the immune response on the V3 loop, a neutralizing epitope of the HIV-1 gp120 envelope. Virology, 372(2):233-46, 2008.
26. H. Li, P.C. Chien, M. Tuen, M.L. Visciano, **S. Cohen**, S. Blais, C.F. Xu, H.T. Zhang, C.E. Hioe: Identification of an N-linked glycosylation in the C4 region of HIV-1 envelope gp120 that is critical for recognition of neighboring CD4 T cell epitopes. J. Immunol., 180(6):4011-21, 2008.
27. **S. Zolla-Pazner, S. Cohen**, A. Pinter, C. Krachmarov, T. Wrin, S. Wang, S. Lu: Cross-clade neutralizing antibodies against HIV-1 induced in rabbits by focusing the immune response on a neutralizing epitope. Virology, 392(1):82-93, 2009.
28. M. Totrov, X. Jiang, X.P. Kong, **S. Cohen**, C. Krachmarov, A. Salomon, C. Williams, M.S. Seaman, R. Abagyan, T. Cardozo, M.K. Gorny, S. Wang, S. Lu, A. Pinter, S. Zolla-Pazner: Structure-guided design and immunological characterization of immunogens presenting the HIV-1 gp120 V3 loop on a CTB scaffold. Virology, 405(2):513-23, 2010.
29. **S. Zolla-Pazner, X.P. Kong, X. Jiang, T. Cardozo, A. Nádas, S. Cohen, M. Totrov, M.S. Seaman, S. Wang, S. Lu**: Cross-clade HIV-1 neutralizing antibodies induced with V3-scaffold protein immunogens following priming with gp120 DNA. J. Virology, 85(19):9887-98, 2011.
30. L.M. Mawr, **S. Cohen**, B. Spurrier, X-P. Kong, S. Zolla-Pazner: Epitope mapping of conformational V2-specific anti-HIV human monoclonal antibodies reveals an immunodominant site in V2. PLoS ONE, 8(7): e70859, 2013.
31. S. Zolla-Pazner, **S.S. Cohen**, D. Boyd, X.P. Kong, M. Seaman, M. Nussenzweig, F. Klein, J. Overbaugh, M. Totrov: Structure/function studies of the HIV-1 envelope reveal quaternary interactions that affect neutralization sensitivity. Accepted, J. Virology, 10/2015.
32. H. Cheng, B.M. Linhares, W. Yu, M.G. Cardenas, Y. Ai, W. Jiang, A. Winkler, **S. Cohen**, A. Melnick, A. MacKerell Jr, T. Cierpicki, F. Xue: Identification of thiourea-based inhibitors of the b-cell lymphoma 6 BTB domain via NMR-based fragment screening and computer-aided drug design. J. Med. Chem., 61(17):7573-7588, 2018.
33. S. Lou, K. Cotter, T. Li, J. Liang, H. Mohsen, J. Liu, J. Zhang, **S. Cohen**, J. Xu, H. Yu, M. Rubin, M. Gerstein: GRAM: A generalized model to predict the molecular effect of a non-coding variant in a cell-type specific manner. bioRxiv, dx.doi.org/10/482992, 2018.



