

CURRICULUM VITAE

Teresa S. Hawley (nee Lam)
Director, Flow Cytometry Core Facility
The George Washington University

Date September 2011

Personal Information

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Education

B.S. (Summa cum laude) 1973
Department of Biology
University of Wisconsin
Eau Claire, Wisconsin

Honors and Awards

Foreign Student Scholarship, University of Wisconsin 1969-1973
Dean's List, University of Wisconsin 1969-1973

Employment History

Scientific Technician 1974
Department of Genetics (Dr. Raymond Baker)
Research Institute, Hospital for Sick Children, Toronto, Ontario

Scientific Technician/Senior Scientific Technician 1974-1982
Division of Biological Research (Dr. Clifford Stanners)
Ontario Cancer Institute, Toronto, Ontario

Senior Scientific Technician 1982-1984
Division of Biological Research (Dr. Nobumichi Hozumi)
Ontario Cancer Institute, Toronto, Ontario

Senior Scientific Technician 1984-1986
Department of Pathology (Dr. Michael Lieberman)
Fox Chase Cancer Center, Philadelphia, PA

Senior Scientific Technician 1986-1987
Institute for Cancer Research (Dr. Beatrice Mintz)
Fox Chase Cancer Center, Philadelphia, PA

Technology Officer G-07 1987-1991
Department of Experimental Oncology (Dr. Robert Hawley/Dr. Chaim Birnboim)
Ottawa Regional Cancer Centre, General Division, Ottawa, Ontario

Research Assistant 1991-1996
Division of Cancer Biology (Dr. Robert Hawley/Dr. Robert Kerbel)
Sunnybrook Health Science Centre, Toronto, Ontario

Research Coordinator 1996-1998
Oncology Gene Therapy Program (Dr. Robert Hawley/Dr. Keith Stewart)
Oncology Research Laboratories, The Toronto Hospital, Toronto, Ontario

Project Leader (Research and Development) 1999-2004
Flow Cytometry Facility (Dr. Judith Hautala, V.P., Research and Development)
Holland Laboratory, American Red Cross

Director 2004-
Flow Cytometry Core Facility
(Dr. Anne Hirshfield, Assoc. VP. Research)
The George Washington University

Other Responsibilities

The Center for Microscopy and Image Analysis 2004-2006
The George Washington University Medical Center

Kratos Axima Plus, MALDI-TOF mass spectrometer 2004-
The Proteomics Core Facility
The George Washington University Medical Center

Research Experience

Animal modeling (experience with mice and hamsters): gene transfer to the hematopoietic system/bone marrow transplantation, tumor biology, viral pathology

Biochemistry: protein synthesis, SDS-PAGE

Cell biology: gene transfer (CaPO₄, protoplast fusion, electroporation, lipofection, retroviral vectors), hematopoietic progenitor assays, generation of permanent cell lines from primary cells, cytokine bioassays, mutant isolation, routine propagation of adherent and suspension cells (including short and long-term hematopoietic cell cultures)

Cell sorting/flow cytometry:

Training Courses

Coulter Epics Elite Operator Course 1994
Becton Dickinson FACSVantage Operator Course 1996
Becton Dickinson FACSVantage TurboSort Operator Course 1997
Becton Dickinson FACSVantage SE Operator Course 1999
Becton Dickinson FACSVantage SE Options Course 2000
22nd Annual Flow Cytometry Course, Bowdoin College, Brunswick, ME 2000
BD Biosciences BD LSR Flow Cytometer Training Course 2001
BD Biosciences FACSVantage SE/FACSDiVa Flow Cytometer Operator Course 2002
BD Biosciences FACSria Flow Cytometer Operator Course 2004

Fluorescence-activated cell sorting

Perform multi-color/multi-laser immunofluorescence flow cytometric analysis/sorting, including multiple fluorescent proteins; high-speed single-cell sorting of rare cells from heterogeneous populations; high-speed 4-way-sorting; Hoechst 33342 'side-population' stem cell analysis/sorting; fluorescence resonance energy transfer (FRET) analysis; cell cycle analysis

Magnetic-activated cell separation

Isolation of human CD34⁺ hematopoietic stem/progenitor cells

Hematology/immunology: blood sampling and analyses, serology, immunoprecipitations, ELISA

Molecular biology: gene cloning/subcloning (phage λ , plasmids), Southern/Northern blotting

Virology: vesicular stomatitis virus, ecotropic and amphotropic retroviruses

Professional Memberships

Member, International Society for Advancement of Cytometry	1999-present
Member, NIH Flow Cytometry User's Group	2000-present
Member, Chesapeake Cytometry Consortium	2001-present

Administrative Service

Institutional Service

Holland Laboratory, American Red Cross	
Member, Library Committee	2000-2002
Member, Safety Committee	2002-2004

Ad Hoc Reviewer - Journal Manuscripts

Cytometry
The Journal of Immunological Methods
Methods

Teaching Service

Lectures

Cell Biology (BMSC 212), Graduate Institute for Biomedical Sciences, The George Washington University, Flow cytometry (2 hrs), January 17, 2007

Dean's Seminars - Physics (PHYS 801), Columbian College of Arts and Sciences, The George Washington University, Introduction to Flow Cytometry with Laboratory Demonstration (2 hrs), December 4, 2007

Cell Biology (BMSC 212), Graduate Institute for Biomedical Sciences, The George Washington University, Flow cytometry (2 hrs), January 16, 2008

Fundamentals of Molecular Biology (BIOC 254), Master of Science Program in Genomics and Bioinformatics, Columbian College of Arts and Sciences, The George Washington University, Introduction to Flow Cytometry with Laboratory Demonstration (1.5 hrs), March 27, 2008

Cell Biology (BMSC 212), Graduate Institute for Biomedical Sciences, The George Washington University, Flow cytometry (2 hrs), January 14, 2009

Cell Biology (BMSC 212), Graduate Institute for Biomedical Sciences, The George Washington University, Flow cytometry (2 hrs), January 12, 2010

Other Professional Activities

Demonstration site for BD Biosciences Regional Sales Representatives	2000-2004
Beta-testing site for BD Biosciences (FACSDiVa v3.1/v4.1 pre-releases)	2003-2004
Beta-testing site for Verity Software House (WinList 3D v5.0/v6.0 pre-releases)	2003-present

Publications

Journal Articles

1. Stanners, C.P., Francoeur, A.M., and **Lam**, T. 1977. Analysis of VSV mutant with attenuated cytopathogenicity: mutation in viral function, P, for inhibition of protein synthesis. *Cell* **11**, 273-281.
2. Stanners, C.P., and **Lam**, T. 1978. The role of the *tsL* and P⁻ mutations of VSV T1026 in persistent infection. In: *Negative Strand Viruses and the Host Cell*. B.W.J. Mahy and R.D. Barry, eds. (Academic Press) 577-582.
3. Francoeur, A.M., **Lam**, T., and Stanners, C.P. 1980. PIF, a highly sensitive plaque assay for the induction of interferon. *Virology* **105**, 526-536.
4. Pollard, J.W., **Lam**, T., and Stanners, C.P. 1980. Mammalian cells do not have a stringent response. *J. Cell. Physiol.* **105**, 313-325.

5. Stanners, C.P., **Lam**, T., Chamberlain, J.W., Stewart, S.S., and Price, G.B. 1981. Cloning of a functional gene responsible for the expression of a cell surface antigen correlated with human chronic lymphocytic leukemia. *Cell* **27**, 211-221.
6. Stanners, C.P., Chamberlain, J.W., **Lam**, T., and Price, G.B. 1983. Studies of cloned genes for a surface antigen correlated with human chronic lymphocytic leukemia. *Prog. Clin. Biol. Res.* **119**, 173-183.
7. Ochi, A., Hawley, R.G., **Hawley**, T., Shulman, M.J., Traunecker, A., Köhler, G., and Hozumi, N. 1983. Functional immunoglobulin M production after transfection of cloned immunoglobulin heavy and light chain genes into lymphoid cells. *Proc. Natl. Acad. Sci. USA* **80**, 6351-6355.
8. **Hawley**, T., Hawley, R.G., Pauling, J., Ochi, A., and Hozumi, N. 1986. Immunoglobulin synthesis in non-B cell lines. *Immunol. Lett.* **12**, 257-262.
9. Beitel, L.K., Chamberlain, J.W., Benchimol, S., **Lam**, T., Price, G.B., and Stanners, C.P. 1986. Studies on HSAG, a middle repetitive family of genetic elements which elicit a leukemia-related cellular surface antigen. *Nucl. Acids Res.* **14**, 3391-3408.
10. Chamberlain, J.W., Henderson, G., Chang, M.W.-M., **Lam**, T., Dignard, D., Ling, V., Price, G.B., and Stanners, C.P. 1986. The structure of HSAG-1, a middle repetitive genetic element which elicits a leukemia-related cellular surface antigen. *Nucl. Acids Res.* **14**, 3409-3424.
11. MacArthur, C.A., **Hawley**, T., and Lieberman, M.W. 1986. Coordinate activation and regulation of quiescent metallothionein I and II genes in carcinogen-treated mouse thymic lymphoma cells. *Carcinogen* **7**, 1487-1495.
12. Reynolds, V.L., Lebovitz, R.M., Warren, S., **Hawley**, T.S., Godwin, A.K., and Lieberman, M.W. 1987. Regulation of a metallothionein-*ras*T24 fusion gene by zinc results in graded alterations in cell morphology and growth. *Oncogene* **1**, 323-330.
13. Hawley, R.G. Covarrubias, L., **Hawley**, T., and Mintz, B. 1987. Handicapped retroviral vectors efficiently transduce foreign genes into hematopoietic stem cells. *Proc. Natl. Acad. Sci. USA* **84**, 2406-2410.
14. Hawley, R.G., Covarrubias, L., **Hawley**, T., and Mintz, B. 1987. Gene transfer with handicapped retroviral vectors in mice. In: *UCLA Symposia on Molecular and Cellular Biology, New Series 61, Recent Advances in Leukemia and Lymphoma*. R.P. Gale and D.W. Golde, eds. (Alan R. Liss, Inc., New York) 567-573.
15. Hawley, R.G., Sabourin, L.A., and **Hawley**, T.S. 1989. An improved retroviral vector for gene transfer into undifferentiated cells. *Nucl. Acids Res.* **17**, 4001.
16. Capel, B., Hawley, R., Covarrubias, L., **Hawley**, T., and Mintz, B. 1989. Clonal contributions of small numbers of retrovirally marked hematopoietic stem cells engrafted in unirradiated neonatal *W/W^v* mice. *Proc. Natl. Acad. Sci. USA.* **86**, 4564-4568.
17. **Hawley**, T.S., Sabourin, L.A., and Hawley, R.G. 1989. Comparative analysis of retroviral vector expression in mouse embryonal carcinoma cells. *Plasmid* **22**, 120-131.
18. **Hawley**, T.S., McLeish, W.A., and Hawley, R.G. 1991. Establishment of a novel factor-dependent myeloid cell line from primary cultures of mouse bone marrow. *Cytokine* **3**, 60-71.
19. **Hawley**, T.S., Burns, B.F., and Hawley, R.G. 1991. Leukocytosis in mice following long-term reconstitution with genetically-modified bone marrow cells constitutively expressing interleukin-1a or interleukin-6. *Leukemia Res.* **15**, 659-673.
20. **Hawley**, T.S. Lach, B., Burns, B.F., May, L.T., Sehgal, P.B., and Hawley, R.G. 1991. Expression of retrovirally transduced IL-1a in IL-6-dependent B cells: a murine model of aggressive multiple myeloma. *Growth Factors* **5**, 327-338.
21. Harris, J.F., Hawley, R.G., **Hawley**, T.S., and Crawford-Sharpe, G. 1991. Increased yield of B-cell hybridomas secreting monoclonal antibodies using a fusion partner expressing recombinant IL-6. *J. Immunol. Meth.* **148**, 199-207.
22. Hawley, R.G., Fong, A.Z.C., Burns, B.F., and **Hawley**, T.S. 1992. Transplantable myeloproliferative disease induced in mice by an interleukin-6 retrovirus. *J. Exp. Med.* **176**, 1149-1163.
23. Graham, C.H., **Hawley**, T.S., Hawley, R.G., MacDougall, J.R., Kerbel, R.S., Khoo, N., and Lala, P.K. 1993. Establishment and characterization of first trimester human trophoblast cells with extended lifespan. *Exp. Cell Res.* **206**, 204-211.
24. Hawley, R.G., Wang, M.H., Fong, A.Z.C., and **Hawley**, T.S. Association between ICAM-1 expression and metastatic capacity of murine B-cell hybridomas. *Clin. Exp. Metastasis* **11**, 213-

- 226.
25. Hawley, R.G., Fong, A.Z.C., Ngan, B.Y., de Lanux, V.M., Clark, S.C., and **Hawley**, T.S. 1993. Progenitor cell hyperplasia with rare development of myeloid leukemia in interleukin 11 bone marrow chimeras. *J. Exp. Med.* **178**, 1175-1188.
 26. Hawley, R.G., Fong, A.Z.C., Lu, M., and **Hawley**, T.S. 1994. The *HOX11* homeobox-containing gene of human leukemia immortalizes murine hematopoietic precursors. *Oncogene* **9**, 1-12.
 27. Hawley, R.G., Lieu, F.H.L., Fong, A.Z.C., and **Hawley**, T.S. 1994. Versatile retroviral vectors for potential use in gene therapy. *Gene Therapy* **1**, 136-138.
 28. Berger, L.C., **Hawley**, T.S., Lust, J.A., Goldman, S.J., and Hawley, R.G. 1994. Tyrosine phosphorylation of JAK-TYK kinases in malignant plasma cell lines growth-stimulated by interleukins 6 and 11. *Biochem. Biophys. Res. Commun.* **202**, 596-605.
 29. Hawley, R.G., Fong, A.Z.C., Ngan, B.Y., and **Hawley**, T.S. 1995. Hematopoietic transforming potential of activated *ras* in chimeric mice. *Oncogene* **11**, 1113-1123.
 30. Ally, B.A., **Hawley**, T.S., McCall-Faienza, K., Kundig, T.M., Oehen, S.U., Pircher, H., Hawley, R.G., and Ohashi, P.S. 1995. Prevention of autoimmune disease by retroviral-mediated gene therapy. *J. Immunol.* **155**, 5404-5408.
 31. Hawley, R.G., Lieu, F.H.L., Fong, A.Z.C., Goldman, S.J., Leonard, J.P., and **Hawley**, T.S. 1996. Retroviral vectors for production of interleukin 12 in the bone marrow to induce a graft-versus-leukemia effect. In: *Interleukin 12: Cellular and Molecular Immunology of an Important Regulatory Cytokine*, Ann. N.Y. Acad. Sci. **795**, 341-345.
 32. Lai, C.-F., Ripperger, J., Morella, K.K., Jurlander, J., **Hawley**, T.S., Carson, W.E., Kordula, T., Caligiuri, M.A., Hawley, R.G., Fey, G.H., and Baumann, H. 1996. Receptors for interleukin (IL)-10 and IL-6-type cytokines use similar signaling mechanisms for inducing transcription through IL-6 response elements. *J. Biol. Chem.* **271**, 13968-13975.
 33. Hawley, R.G., **Hawley**, T.S., Fong, A.Z.C., Quinto, C., Collins, M., Leonard, J.C., and Goldman, S.J. 1996. Thrombopoietic potential and serial repopulating ability of murine hematopoietic stem cells constitutively expressing interleukin-11. *Proc. Natl. Acad. Sci. USA* **93**, 10297-10302.
 34. Hawley, R.G., Fong, A.Z.C., Reis, M.D., Zhang, N., Lu, M., and **Hawley**, T.S. 1997. Transforming function of the *HOX11/TCL3* homeobox gene. *Cancer Res.* **57**, 337-345.
 35. Lieu, F.H.L., **Hawley**, T.S., Fong, A.Z.C., and Hawley, R.G. 1997. Transmissibility of MSCV-based retroviral vectors carrying both interleukin-12 cDNAs and a third gene: implications for immune gene therapy. *Cancer Gene Ther.* **4**, 167-175.
 36. Wang, Y., Kuropatwinski, K.K., White, D.W., **Hawley**, T.S., Hawley, R.G., Tartaglia, L.A., and Baumann, H. 1997. Leptin receptor action in hepatic cells. *J. Biol. Chem.* **272**, 16216-16223.
 37. Pizzoferrato, E., Chu, N.R., **Hawley**, T.S., Lieu, F.H.L., Barber, B.H., Hawley, R.G., Watts, T.H., and Berinstein, N.L. 1997. Enhanced immunogenicity of B cell lymphoma genetically engineered to express B7-1 and interleukin-12. *Hum. Gene Ther.* **8**, 2217-2228.
 38. Kim, H., **Hawley**, T.S., Hawley, R.G., and Baumann, H. 1998. Protein tyrosine phosphatase-2 (SHP-2) moderates signaling by gp130 but is not required for gene induction in hepatic cells. *Mol. Cell. Biol.* **18**, 1525-1533.
 39. Keller, G., Wall, C., Fong, A.Z.C., **Hawley**, T.S., and Hawley, R.G. 1998. Overexpression of HOX11 leads to the immortalization of embryonic precursors with both primitive and definitive hematopoietic potential. *Blood* **92**, 877-887.
 40. **Hawley**, T.S., Fong, A.Z.C., Griesser, H., Lyman, S.D., and Hawley, R.G. 1998. Leukemic predisposition of mice transplanted with gene-modified hematopoietic precursors expressing flt3 ligand. *Blood* **92**, 2003-2011.
 41. **Hawley**, T.S., Linsley, P.S., and Hawley, R.G. 1998. Co-expression of B7-1 with interleukin-12 enhances vaccine-induced antitumor immunity in experimental myeloma. *Hematology* **3**, 365-374.
 42. Wen, X.-Y., Stewart, A.K., Sooknanan, R.R., Henderson, G., **Hawley**, T.S., Reimold, A.M., Glimcher, L.H., Baumann, H., Malek, L.T., and Hawley, R.G. 1999. Identification of *c-myc* promoter binding protein and X-box binding protein 1 as interleukin-6 target genes in human multiple myeloma cells. *Int. J. Oncol.* **15**, 173-178.
 43. Govaerts, A.-S., Guillaume, Th., André, M., Bayat, B., Feyens, A.-M., **Hawley**, T.S., Fong, A.Z.C., Hawley, R.G., and Symann, M. 1999. Retroviral-mediated transfer of genes encoding interleukin-2 and interleukin-12 into fibroblasts increases host antitumor responsiveness. *Cancer Gene Ther.* **6**, 447-455.

44. Allen, T.D., Zhu, Y.-X., **Hawley**, T.S., and Hawley, R.G. 2000. TALE homeoproteins as HOX11-interacting partners in T-cell leukemia. *Leuk. Lymphoma* **39**, 241-256.
45. Ramezani, A., **Hawley**, T.S., and Hawley, R.G. 2000. Lentiviral vectors for enhanced gene expression in human hematopoietic cells. *Mol. Ther.* **2**, 458-469.
46. **Hawley**, T.S., Telford, W.G., and Hawley, R.G. 2001. "Rainbow" reporters for multispectral marking and lineage analysis of hematopoietic stem cells. *Stem Cells* **19**, 118-124.
47. Li, Z., Zhu, Y.X., Plowright, E.E., Bergsagel, P.L., Chesi, M., Patterson, B., **Hawley**, T.S., Hawley, R.G., and Stewart, A.K. 2001. The myeloma-associated oncogene fibroblast growth factor receptor 3 is transforming in hematopoietic cells. *Blood* **97**, 2413-2419.
48. **Hawley**, T.S., Telford, W.G., Ramezani, A., and Hawley, R.G. 2001. Four-color flow cytometric detection of retrovirally expressed red, yellow, green and cyan fluorescent proteins. *BioTechniques* **30**, 1028-1034.
(Published in part as an Application Note in *Am. Biotechnol. Lab.* 2001; **19**, 12-14.)
(Featured in an editorial by K. Robinson in *Biophotonics Int.* 2001; **Nov.**, 60-62.)
49. Wen, X.-Y., Mandelbaum, S., Li, Z.H., Hitt, M., Graham, F.L., **Hawley**, T.S., Hawley, R.G., and Stewart, A.K. 2001. Tricistronic viral vectors co-expressing interleukin-12 (IL-12) and CD80 (B7-1) for the immunotherapy of cancer: preclinical studies in myeloma. *Cancer Gene Ther.* **8**, 361-370.
50. Bunting, K.D., Bradley, H.L., **Hawley**, T.S., Moriggl, R., Sorrentino, B.P., and Ihle, J.N. 2002. Reduced lympho-myeloid repopulating activity from adult bone marrow and fetal liver of mice lacking expression of STAT5. *Blood* **99**, 479-487.
51. Yu, W.-M., **Hawley**, T.S., Hawley, R.G., and Qu, C.-K. 2002. Role of the docking protein Gab2 in β 1 integrin signaling pathway-mediated hematopoietic cell adhesion and migration. *Blood* **99**, 2351-2359.
52. Yu, W.-M., **Hawley**, T.S., Hawley, R.G., and Qu, C.-K. 2002. Immortalization of yolk sac-derived precursor cells. *Blood* **100**, 3828-3831.
53. Bradley, H.L., **Hawley**, T.S., and Bunting, K.D. 2002. Cell intrinsic proliferative defects in STAT5-deficient hematopoietic stem cells. *Blood* **100**, 3983-3989.
54. Ramezani, A., **Hawley**, T.S., and Hawley, R.G. 2003. Performance- and safety-enhanced lentiviral vectors containing the human interferon- β scaffold attachment region and the chicken β -globin insulator. *Blood* **101**, 4717-4724.
55. Telford, W.G., **Hawley**, T.S., and Hawley, R.G. 2003. Analysis of violet-excited fluorochromes by flow cytometry using a violet laser diode. *Cytometry* **54A**, 48-55.
56. Yu, W.-M., **Hawley**, T.S., Hawley, R.G., and Qu, C.-K. 2003. Catalytic-dependent and -independent roles of SHP-2 tyrosine phosphatase in interleukin-3 signaling. *Oncogene* **22**, 5995-6004.
57. Li, Z.H., Wen, X.-Y., Mandelbaum, S., Falcioni, N., **Hawley**, T.S., Hawley, R.G., and Stewart, A.K. 2003. Improved therapeutic outcome following combination immunogene vaccination therapy in murine myeloma. *Leuk. Lymphoma* **44**, 1775-1784.
58. Abuljadayel, I.S., Afghan, R.K., McCaffrey, T.A., Lundergan, C., **Hawley**, T.S., Hawley, R.G., and Dhoot, G.J. 2004. SCID repopulating cells derived from unmobilised adult human peripheral blood. *Curr. Med. Res. Opin.* **20**, 87-100.
59. Eaker, S.S., **Hawley**, T.S., Ramezani, A., and Hawley, R.G. 2004. Detection and enrichment of hematopoietic stem cells by side population phenotype. In: *Flow Cytometry Protocols, Second Edition, Methods Mol. Biol.* **263**, T.S. **Hawley** and R.G. Hawley, eds. (Humana Press Inc., Totowa, New Jersey) 161-180.
60. **Hawley**, T.S., Herbert, D.J., Eaker, S.S., and Hawley, R.G. 2004. Multiparameter flow cytometry of fluorescent protein reporters. In: *Flow Cytometry Protocols, Second Edition, Methods Mol. Biol.* **263**, T.S. **Hawley** and R.G. Hawley, eds. (Humana Press Inc., Totowa, New Jersey) 219-238.
61. Moayeri, M., Ramezani, A., Morgan, R.A., **Hawley**, T.S., and Hawley, R.G. 2004. Sustained phenotypic correction of hemophilia A mice following oncoretroviral-mediated expression of a bioengineered human factor VIII gene in long-term hematopoietic repopulating cells. *Mol. Ther.* **10**, 892-902.
62. Haviernik, P., Lahoda, C., Bradley, H.L., **Hawley**, T.S., Ramezani, A., Hawley, R.G., Stetler-Stevenson, M., Stetler-Stevenson, W.G., and Bunting, K.D. 2004. Tissue inhibitor of matrix metalloproteinase-1 overexpression in M1 myeloblasts impairs IL-6-induced differentiation.

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63. Akimov, S.S., Ramezani, A., **Hawley**, T.S., and Hawley, R.G. 2005. Bypass of senescence, immortalization and transformation of human hematopoietic progenitor cells. *Stem Cells* **23**, 1423-1433.
 64. Telford, W., Murga, M., **Hawley**, T., Hawley, R., Packard, B., Komoriya, A., Haas, F., and Hubert, C. 2005. DPSS yellow-green 561-nm lasers for improved fluorochrome detection by flow cytometry. *Cytometry* **68A**, 36-44.
 65. Moayeri, M., **Hawley**, T.S., and Hawley, R.G. 2005. Correction of murine hemophilia A by hematopoietic stem cell gene therapy. *Mol. Ther.* **12**, 1034-1042.
 66. Owens, B.M., **Hawley**, T.S., Spain, L.M., Kerkel, K.A., and Hawley, R.G. 2006. *TLX1/HOX11*-mediated disruption of primary thymocyte differentiation prior to the CD4⁺CD8⁺ double-positive stage. *Br. J. Haematol.* **132**, 216-229.
 67. Ramezani, A., **Hawley**, T.S., and Hawley, R.G. 2006. Stable gammaretroviral vector expression during embryonic stem cell-derived in vitro hematopoietic development. *Mol. Ther.* **14**, 245-254.
 68. Telford, W., Kapoor, V., Jackson, J., Burgess, W., Buller, G., **Hawley**, T., and Hawley, R. 2006. Violet laser diodes in flow cytometry: an update. *Cytometry* **69A**, 1153-1160.
 69. Hawley, R.G., Ramezani, A. and **Hawley**, T.S. 2006. Hematopoietic stem cells. In: *Adult Stem Cells, Methods Enzymol.* **419**, I. Klimanskaya and R. Lanza, eds. (Elsevier/Academic Press, San Diego, CA) 149-179.
 70. Riz, I., Akimov, S.S., Eaker, S.S., Baxter, K.K., Lee H.J., Mariño-Ramírez, L., Landsman, D., **Hawley**, T.S., and Hawley, R.G. 2007. *TLX1/HOX11*-induced hematopoietic differentiation blockade. *Oncogene* **26**, 4115-4123.
 71. Panchision, D.M., Chen, H.L., Pistollato, F., Papini, D., Ni, H.T., and **Hawley**, T.S. 2007. Optimized flow cytometric analysis of CNS tissue reveals novel functional relationships between CD133, CD15 and CD24 expressing cells. *Stem Cells* **25**, 1560-1570.
 72. Ramezani, A., **Hawley**, T.S., and Hawley, R.G. 2008. Reducing the genotoxic potential of retroviral vectors. In: *Gene Therapy Protocols, Volume 2: Design and Characterization of Gene Transfer Vectors, Third Edition, Methods Mol. Biol.* **434**, J.M. LeDoux, ed. (Humana Press Inc./Springer, Totowa, NJ) 183-203.
 73. Hawley, R.G., **Hawley**, T.S., and Cantor, A.B. 2008. *TLX1 (HOX11)* immortalization of embryonic stem cell-derived and primary murine hematopoietic progenitors. In: *Current Protocols in Stem Cell Biology*. M. Bhatia, A.G. Elefanty, S.J. Fisher, R. Patient, T. Schlaeger, and E.Y. Snyder, eds. (John Wiley & Sons, Inc., NJ). **1**, 1F.7.1-1F.7.19.
 74. Ramezani, A., **Hawley**, T.S., and Hawley, R.G. 2008. Combinatorial incorporation of enhancer blocking components of the chicken β -globin 5'HS4 and human T-cell receptor α/δ BEAD-1 insulators in a self-inactivating retroviral vectors reduces their genotoxic potential. *Stem Cells* **26**, 3257-3266.
 75. Riz, I., **Hawley**, T.S., Johnston, H., and Hawley, R.G. 2009. Role of *TLX1* in T-cell acute lymphoblastic leukaemia pathogenesis. *Br. J. Haematol.* **145**, 140-143.
 76. Riz, I., Lee, H.J., Baxter, K.K., Behnam, R., **Hawley**, T.S., and Hawley, R.G. 2009. Transcriptional activation by *TLX1/HOX11* involves Gro/TLE corepressors. *Biochem. Biophys. Res. Comm.* **380**, 361-365.
 77. Zweier-Renn, L.A., **Hawley**, T.S., Burkett, S., Ramezani, A., Riz, I., Adler, R.L., Hickstein, D.D., and Hawley, R.G. 2010. Hematopoietic immortalizing function of the NKL-subclass homeobox gene *TLX1*. *Genes Chromosomes Cancer* **49**, 119-131.
 78. Shashurin, A., Stepp, M.A., **Hawley**, T.S., Pal-Ghosh, S., Brieda, L., Bronnikov, S., Jurjus, R.A., and Keidar, M. 2010. Influence of cold plasma atmospheric jet on surface integrin expression of living cells. *Plasma Processes and Polymers* **7**, 294-300.
 79. Riz, I., **Hawley**, T.S., Luu, T.V., Lee, N.H., and Hawley, R.G. 2010. *TLX1* and NOTCH coregulate transcription in T cell acute lymphoblastic leukemia cells. *Mol. Cancer* **9**, 181.
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Books Edited

1. **Hawley**, T.S. and Hawley, R.G., eds. 2004. *Flow Cytometry Protocols*, Second Edition (ISBN 978-1-58829-234-6; ISBN 978-1-58829-235-3). Series: *Methods Mol. Biol.* **263** (Humana Press Inc., Totowa, NJ), 448 p.
(Reviewed by P.B. Gahan in *Cell. Biochem. Funct.* **23**: 291, 2005; D.A. Lawrence in *Clin. Chem.* **51**: 678-679, 2005; A.A. Arbin in *Leuk. Res.* **29**: 109-110, 2005; and by J. Olweus in *Scand. J. Clin. Lab. Invest.* **65**: 175, 2005)
2. **Hawley**, T.S. and Hawley, R.G., eds. 2011. *Flow Cytometry Protocols*, Third Edition (ISBN 978-1-61737-949-9). Series: *Methods Mol. Biol.* **699** (Humana Press Inc./Springer, New York, NY), 485 p.

Abstracts

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63. Ramezani, A., **Hawley**, T.S., and Hawley, R.G. 2007. Toward hemophilia A gene therapy: safety-modified gammaretroviral vector expressing a secretion-enhanced FVIII molecule with reduced immunogenicity. *Mol. Ther.* **15** (Suppl. **1**), S364.
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65. Riz, I., Baxter, K.K., Lee, H.J., Behnam, R., **Hawley**, T.S., and Hawley, R.G. 2007. Role of the T-cell acute lymphoblastic leukemia oncoprotein TLX1/HOX11 in chromatin dynamics and gene regulatory networks. 49th American Society of Hematology Annual Meeting, Atlanta, GA, December 8-11, 2007. *Blood* **110** (Suppl. **1**), 25a. (Oral Presentation)
66. Ramezani, A. **Hawley**, T.S., and Hawley, R.G. 2008. Correction of murine hemophilia A following non myeloablative transplantation of hematopoietic stem cells engineered to encode a secretion-enhanced FVIII molecule with reduced immunogenicity. 11th Annual Meeting of the American Society of Gene Therapy, Boston, MA, May 28-June 1, 2008. *Mol. Ther.* **16** (Suppl. **1**), S330.
67. Zaidi, M.R., De Fabo, E., **Hawley**, T., Noonan, F., Arnheiter, H., Davis, S., Meltzer, P., and Merlino, G. 2009. A novel mouse model for isolation of green fluorescent protein (GFP)-labeled melanocytes. Mouse Models of Cancer Meeting, American Association for Cancer Research, San Francisco, CA, January 12-15, 2009.
68. Zaidi, M.R., De Fabo, E., Davis, S., Graff-Cherry, C., **Hawley**, T., Feigenbaum, L., Fuchs, E., Hornyak, T., Arnheiter, H., Trinchieri, G., Noonan, F., Meltzer, P., and Merlino, G. 2009. Ultraviolet B-induced activation of melanocytes is mediated through interferon- γ secreted by macrophages. Tri-Society Annual Conference 2009 of the Society for Leukocyte Biology, International Cytokine Society, & International Society for Interferon and Cytokine Research, Cellular and Cytokine Interactions in Health and Disease. *Cytokine* **48**, 52.
69. Zweier-Renn, L.A., **Hawley**, T.S., Ramezani, A., Riz, I., and Hawley, R.G. 2010. Dissecting the molecular mechanism of *TLX1*-mediated T-cell acute lymphoblastic leukemia development using an *in vitro* immortalization model. 101st American Association for Cancer Research Annual Meeting, Washington, DC, April 2010.

70. Ramezani, A., Karandish, S., Zweier-Renn, L.A., **Hawley**, T.S., and Hawley, R.G. 2010. Correction of murine hemophilia A following nonmyeloablative transplantation of hematopoietic stem cells engineered to express a bioimproved human FVIII using a safety-augmented, B-lymphoid lineage-restricted lentiviral vector. 13th Annual Meeting of the American Society of Gene and Cell Therapy, Washington, DC, May 2010.
71. Zweier-Renn, L.A., **Hawley**, T.S., Ramezani, A., Riz, I., and Hawley, R.G. 2010. Effect of *TLX1* homeobox gene expression on insertional immortalization by an insulated self-inactivating retroviral vector. 13th Annual Meeting of the American Society of Gene and Cell Therapy, Washington, DC, May 2010. *Mol. Ther.* **18** (Suppl. 1), S269.

Major Invited Speeches

Local and Regional Invited Lectures

1. Cellular Immunology Symposium, Vaccine Research Center, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland, April 11, 2002. 'Side population' analysis on the LSR and FACSVantage SE.
2. National Institutes of Health Flow Cytometry User Group Meeting, Clinical Center, National Institutes of Health, Bethesda, Maryland, September 25, 2002. Technical aspects of 'side population' stem cell analysis.
3. The Chesapeake Cytometry Consortium Fall Meeting, Pooks Hill Marriott, Bethesda, Maryland, September 20, 2004. Analysis of fluorescent protein reporters using alternative display transforms.
4. Committee on Research, The George Washington University Medical Center, November 21, 2006. GWUMC Flow Cytometry Core Facility.
5. Basic Science Faculty Association, The George Washington University Medical Center, February 16, 2007. GWUMC Flow Cytometry Core Facility.

National Invited Lectures

1. 27th Annual Course in Flow Cytometry, Research Methods and Applications, Bowdoin College, Brunswick, Maine, June 14, 2004. Monitoring gene transfer and expression.
2. 27th Annual Course in Flow Cytometry, Research Methods and Applications, Bowdoin College, Brunswick, Maine, June 15-18, 2004. Laboratory Sessions: Multiple gene expression.
3. 28th Annual Research Course in Flow Cytometry, Research Methods and Applications, The National Flow Cytometry Resource, Los Alamos National Laboratory, Los Alamos, NM, June 11-17, 2005. Laboratory Sessions: Fluorescent protein analysis.
4. 29th Annual Course in Flow Cytometry, Research Methods and Applications, Bowdoin College, Brunswick, Maine, June 10-16, 2006. Laboratory Sessions: Fluorescent protein analysis.
5. 30th Annual Research Course in Flow Cytometry, The National Flow Cytometry Resource, Los Alamos National Laboratory, Los Alamos, NM, June 9-15, 2007. Laboratory Sessions: Fluorescent protein analysis.
6. 31st Annual Course in Flow Cytometry, Research Methods and Applications, Bowdoin College, Brunswick, Maine, June 14-20, 2008. Laboratory Sessions: Fluorescent protein analysis and sorting.
7. 32nd Annual Research Course in Flow Cytometry, The Center for Biomedical Engineering, University of New Mexico, Albuquerque, New Mexico, May 30-June 5, 2009. Laboratory Sessions: Fluorescent protein analysis.
8. 33rd Annual Course in Flow Cytometry, Research Methods and Applications, Bowdoin College, Brunswick, Maine, June 19-25, 2010. Laboratory Sessions: Fluorescent protein analysis and sorting.
9. 34th Annual Research Course in Flow Cytometry, The Center for Biomedical Engineering, University of New Mexico, Albuquerque, New Mexico, June 11-17, 2011. Laboratory Sessions: Fluorescent protein analysis and sorting.
10. 34th Annual Research Course in Flow Cytometry, The Center for Biomedical Engineering, University of New Mexico, Albuquerque, New Mexico, June 13, 2011. Core Managers Forum.