DAVID W PYATT

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Education:

Ph.D., Toxicology, University of Colorado Health Sciences Center, 1996.

B.S., Science Education, North Carolina State University, 1981.

B.S., Biological Sciences, North Carolina State University, 1980.

Current Academic Appointments

Adjunct Assistant Professor of Toxicology, Molecular Toxicology and Environmental Health Sciences Program, School of Pharmacy, University of Colorado, CO.

Instructor, Graduate Programs in Environmental Sciences, University of Colorado at Denver and Health Sciences Center, Downtown Denver Campus, Denver, CO.

Assistant Clinical Professor, Department of Occupational and Environmental Health, School of Public Health, University of Colorado, Denver, CO.

Professional Experience

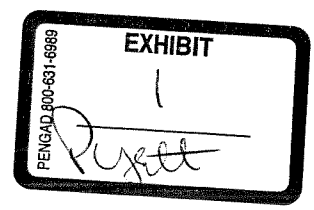
Jan 2005-Present, Principal, Summit Toxicology, L.L.P., Lafayette, CO.

September 2003-Sept 2004, Managing Health Scientist, ChemRisk, Boulder, CO.

January 1998-Dec 2004, Assistant Research Professor of Toxicology, Molecular Toxicology and Environmental Health Sciences Program, University of Colorado Health Sciences Center, Denver, CO.

May 2001-Oct 2002, Senior Toxicologist, Exponent, Boulder CO.

October 1996-1997, Research Associate (Post-doctoral researcher), Molecular Toxicology and Environmental Health Sciences Program, University of Colorado Health Sciences Center, Denver, CO.



August 1991-September 1996, Research Assistant, University of Colorado Health Sciences Center, Denver, CO.

June 1993-Present, Adjunct Staff, Center for Creative Leadership, Colorado Springs, CO.

November 1990-August 1991, Environmental Scientist, United States Environmental Protection Agency, Region VIII, Denver, CO.

April 1990-November 1990, Chemist, Public Service Company, Denver, CO.

August 1983-August 1989, Instructor, Chemistry and Geology, Boulder Valley Public Schools, Boulder, CO.

June 1984-August 1988, Instructor, General mountaineering, Colorado Outward Bound School, Denver, CO.

University Teaching Experience

Instructor, "Occupational Toxicology", Continuing Medical Education Program (CME) offered through the University of Colorado School of Public Health, (Fall 2009-Present).

Instructor, "EHOH 6616, Environmental and Occupational Toxicology", University of Colorado School of Public Health, (Spring 2009).

Course Director and Instructor, "ENVS 6230-001, Environmental Epidemiology", Environmental Sciences Program, University of Colorado Health Sciences Center, Denver Campus, (2008-present).

Course Director and Instructor, "ENVS 6220-002, Principles of Toxicology", Environmental Sciences Program, University of Colorado Health Sciences Center, Denver Campus, (2006-present).

Instructor, "Principles of Immunology", IOS-6, School of Pharmacy, University of Colorado Health Sciences Center, PharmD Program (1996-2004).

Course Director and Instructor, "Toxicology and Industrial Health", Department of Biometrics and Preventive Medicine, School of Medicine, University of Colorado Health Sciences Center (2000).

Course Director and Instructor, "Applied Toxicology and Risk Assessment", Molecular Toxicology and Environmental Health Sciences Program, School of Pharmacy, University of Colorado (1998-Present).

Instructor, "Toxicological Pathology", Molecular Toxicology and Environmental Health Sciences Program, School of Pharmacy, University of Colorado (1997-2001).

Course Director and Instructor, "Principles of Immunology, Immunopathology and Immunopharmacology", School of Pharmacy, University of Colorado Health Sciences Center, an on-line course for the non-traditional PharmD Program (1997- 1999).

Selected Lectures and Presentations:

"Leukemia and Formaldehyde" Annual Science Meeting with FCI and FormaCare, Miami, FL, Jan. 2010.

"Benzene and Childhood Leukemia" Benzene, 2009, Health Effects and Mechanisms of Bone Marrow Toxicity, Munich, Germany, Sept, 2009.

"The critical interaction between hematopoietic progenitors cells (HPC) and the bone marrow microenvironment in normal hematopoiesis and hematopoietic toxicology" Continuing Education Course, SOT Annual Meeting in Seattle WA, 2008.

"Biomonitoring equivalents: Communication Issues", Society of Risk Analysis, Annual Meeting in San Antonio, TX. 2007.

"The relationship between hematotoxicity and the development of chemically induced acute myelogenous leukemia" Third International Symposium on Secondary Leukemia and Leukemogenesis, Rome, Italy, 2006.

"Children's Susceptibility to Chemical Leukemogenesis" BTX VCCEP Panel, Estes Park, 2004.

"The Ethical Use of Animal Testing in Toxicology Research", Department of Preventive Medicine and Biometrics, University of Colorado Health Science Center, Dec. 2003.

"The Use of Non-Toxic Sugars for Long-term Storage of Hematopoietic Progenitor Cells", Harvard University, Aug. 2002.

"Assays to Evaluate Hematopoietic Function", Louisiana State University, Dec. 2001.

"Dithiocarbamates as Confounders in Butadiene Epidemiology", Exponent, Inc. 2001

"Toxicology of Mercury and Other Heavy Metals", School of Dentistry, University of Colorado Health Sciences Center (Sept. 2000).

"Toxicology and Risk Assessment in Product Safety Testing", Massachusetts Society for Medical Research (Oct. 1999).

"Occupational and Regulatory Toxicology", Department of Preventive Medicine and Biometrics, University of Colorado Health Science Center (Aug. 1999).

"Environmental Risk Assessment and Risk Management", Navy Civil Engineering and Core Officer School (September 1998).

"NF-κB in CD34 Positive Human Bone Marrow Cells", University of Colorado Experimental Hematology Program (May 1998).

"Principles of Toxicology". Western States Chiropractic College (Nov. 1995 and Nov. 1996).

"Toxicology and Pathology of the Kidney". University of Colorado Health Sciences Center (Mar. 1994).

"Toxicological Profile of the Rocky Mountain Arsenal". University of Colorado Health Sciences Center (Feb.1993).

"Toxicology and Risk Assessment". University of Colorado at Denver (Dec. 1991,1992).

Scholarships/Awards

Invited "Member of SOT Speaker's Bureau", Society of Toxicology, 2008

"Biomonitoring Specialty Award", Society of Toxicology, 2008

"Excellence in Teaching" Award, School of Pharmacy, University of Colorado Health Sciences Center, 2002.

"Excellence in Teaching Award", School of Pharmacy, University of Colorado Health Sciences Center 2001.

"President's Teaching Award", runner-up, University of Colorado Health Sciences Center, 2001, 2002, 2003.

Outstanding Research Award, Graduate Student Research Forum, University of Colorado Health Sciences Center, Denver, CO. 1996.

Graduate Student Travel Award, Annual Meeting of the Society of Toxicology, Baltimore, MD 1995.

Outstanding Research Award, Graduate Student Research Forum, University of Colorado Health Sciences Center, Denver, CO. 1995.

Poster Presentation Award, Annual Mountain West Society of Toxicology Meeting, Albuquerque, NM. 1994.

"Special Achievement" Award, Environmental Protection Agency
Region VIII 1991.

"Teacher of the Year" Award, Nevin Platte Jr. HS 1987, 1988.

"Beyond The Usual" Award, Nevin Platte Jr. HS 1986.

"Outstanding New Teacher" Award, Athens Drive HS 1982.

Professional Memberships:

* Society of Toxicology
* International Society of Experimental Hematology
* American Association for the Advancement of Science

Research Interests:

Immunotoxicology

Biochemical mechanisms of immunological disorders induced by exposure to heavy metals. Chemical and drug induced alterations in developing immune systems.

Experimental Hematology

Biological alterations associated with benzene induced leukemogenesis
Drug induced idiosyncratic aplastic anemia and agranulocytosis

Consulting Activities

US EPA, Region 8
US EPA, Office of Drinking Water, Washington, D.C.
US EPA, NCEA, IRIS program
State of Colorado, Department of Environmental Quality
ISSI, Inc. (environmental consulting company)
Scientia Veritas, Inc. (environmental consulting company)
Geotrans (environmental consulting company)
Geneva Pharmaceuticals, Inc.
Bavarian Department of the Environment
Organ-Recovery Systems, Inc.
Texas Commission on Environmental Quality (TCEQ)
Sandoz, Inc.
The Nature Conservancy
The American Petroleum Institute
American Chemical Council
Formaldehyde Council, Inc.
Various law firms

Student Advising Activities

Graduate Student Advisory Committee

Rhonda Baker (PhD)
Sandhya Buchanon (PhD)
Anatole Konowal (MS)

Research Advisor

Brenda Mehos (PharmD)
Jennifer McKermen (PharmD)
Jung Chang (PharmD)
Jean Zudrow (PhD)
Patrick Kerzic (PhD)
Tiffany Richens (MPH)

Academic Funding Sources:

Geneva Pharmaceutical, Inc. "Acute Toxicity of Glycine HCl", $49,801 (completed).
"Cellular Engineering for Suspended Animation", DOD, $784,000 (completed).
"A Novel *In Vitro* Culture System to Evaluate Developmental Immunotoxicity", $10,000 (completed).
"Cellular Preservation of HPC with Non-Toxic Sugars", NIH $125,000 (completed).

***Ad hoc* Editorial Review:**

Environmental Health Perspectives (2007)
The American Journal of Medical Sciences (2007)
American Journal of Hematology (2007)
Journal of Occupational & Environmental Hygiene (2006)
Chemosphere (2004)
Blood (1998, 2002, 2009)
Journal of Toxicology and Environmental Health (2003, 2004, 2006, 2007, 2008)
Toxicological Sciences (2003)
Occupational and Environmental Medicine (2002, 2007, 2009)
Toxicology and Applied Pharmacology (1998, 2001, 2002)
Experimental Hematology (2001, 2002)
Current Pharmaceutical Biotechnology (1998)
Cell Biology and Toxicology (1998)
Toxicology (1997, 2008)
Critical Reviews in Toxicology (2009, 2010)
Chemico-Biologic Interactions (2009, 2010)
Toxicological Sciences (2008, 2010)
Regulatory Toxicology and Pharmacology (2010)

Manuscripts (peer reviewed):

Natelson, E. and Pyatt, D., 2010 "Temozolomide-Induced Myelodysplasia" *Advances in Hematology*, In press.

Pyatt, D., Hays, S., and Aylward, L. 2010 "Benzene and Childhood Leukemia" *Chemico-Biological Interactions,* In press.

Buchanan, S., Elliott, G. Toner, T., Pyatt, D. and Carpenter, J. 2010 "Mechanistic Study on Loss of Clonogenic Potential of a Lyophilized CD34+ Cell Line during Processing and Following Ambient Storage" Submitted PloS Biology.

Buchanan, S., Pyatt, D.W. and Carpenter, J. 2009 "Preservation of Differentiation and Clonogenic Potential of Lyophilized Human Hematopoietic Stem and Progenitor Cells Loaded with Trehalose following Ambient Storage" In press.

Pyatt, D.W., Natelson, E. and Golden, R. 2008 "Is Inhalation Exposure to Formaldehyde a Biologically Plausible Cause of Lymphohematopoietic Malignancies?" *Regulatory Toxicology and Pharmacology,* V51, p119-133.

Buchanan, S., Pyatt, D.W. and Carpenter, J. 2008 "Successful Lyophilization and Ambient Temperature Storage of Human Umbilical Cord Blood" *Stem Cells.*

Lakind, J.S., Holgate, S.T., Ownby, D., Mansure, A., Helms, P., Pyatt, D.W. and Hays, S.M. 2007 "A critical review of the use of clara cell secretory protein [CC16] as a biomarker of acute of chronic pulmonary effects. *Biomarkers*, 2007, p1-23.

Pyatt, D.W., Aylward, L., and Hays, S. 2007 "Is age an independent risk factor for chemically induced acute myelogenous leukemia in children? *Journal of Toxicology and Environmental Health, Part B*, 10: 1-22, 2007.

Hays, S.M., Becker, R., Leung, H.W., Aylward, L.L., and Pyatt, D.W. 2007. Biomonitoring equivalents: A screening approach for interpreting biomonitoring results from a public health risk perspective. *Reg. Toxicol. Pharmacol.* 47(1):96-109.

Buchanan, S., Pyatt, D.W. and Carpenter, J. 2006 "Freeze-drying human hematopoietic stem and progenitor cells loaded with trehalose." Accepted, *Nature Biotechnology.*

Golden, B., Pyatt D.W. and Shields, P. 2006 "Formaldehyde as a potential human leukemogen: an assessment of biologic plausibility" *Critical Reviews in Toxicology,* V36:135-153.

Hays, S.M. and Pyatt, D.W. 2006 Risk assessment for children exposed to decabromodiphenyl (Oxide) ether (Deca) in the United States." *Integrated Environmental Assessment and Management,* V2 (1):2-12.

Buchanan, S., Menze, M., Hand, S., Pyatt, D.W. and Carpenter, J. 2005 "Cryopreservation of human hematopoietic stem and progenitor cells loaded with trehalose: Transient permeabilization via the ATP-Dependent P2Z receptor channel." *Cell Preservation Technology*, V3(4):212-222.

Pyatt, D.W., Hays, S. and Cushing, C. 2005 "Do children have increased susceptibility for developing secondary acute myelogenous leukemia?" *Chemico-Biological Interactions,* V153-154:223-229.

Zheng, T., Pyatt, D.W., Gross, S., Le, A. and Irons, R. D. 2004 "Hydroquinone modulates GM-CSF in TF.1 cells". *Leukemia,* 18(7):1296-304.

Buchanan, S., Gross, S., Mehmet, T., Carpenter, J. and Pyatt, D. W. 2004 "A novel methodology for cell preservation using non-toxic sugars". *Journal of Stem Cells and Development,* V13(3):295-305.

Hays, Sean, M., Cushing, C., Leung, H-W., Pyatt, D., Holicky, K. and Paustenbach, D. 2003 "Exposure of infants and children in the U.S. to the flame retardant decabromodiphenyl oxide (DBDPO)". *Journal of Children's Health,* V1(4):449-475.

Kerzic, P., Pyatt, D.W., Zheng, T. and Irons, R.D. 2003 "Inhibition of NF-kappa B by hydroquinone, a benzene metabolite, sensitizes human bone marrow progenitor cells to TNF-α induced apoptosis". *Toxicology,* V187(2-3):127–137.

Irons, R.D., Pyatt, D.W., Yang, J., Zheng, T., Stillman, W.S., Le, A. and Gustaphson, D.2001 "Comparative toxicology of dithiocarbamates and butadiene metabolites in human lymphoid and bone marrow cells." *Chemical- Biological Interactions*, V135-136:615-625.

Baker, R.K., Pyatt, D.W., Irons, R.D. and Kroll, D.J. 2001 "Benzene Metabolites Antagonize Etoposide Stabilized Cleavable Complexes of DNA-Topoisomerase-α". *Blood,* V98:830-833.

Irons, R.D., Pyatt, D.W., Gross, S. A. and Stillman, W.S. 2001 "Hematopoietic stem and progenitor cells as targets for biologically reactive intermediates". *Advances in Experimental and Medical Biology*, V500:441-9.

Irons, R.D., Pyatt, D. W., Stillman, W. S., Som, D., Claffey, D. and Ruth, J. 2000 "Comparative toxicity of butadiene and it's putative metabolites in human $CD34^+$ bone marrow cells. *Toxicology,* V150:99-106.

Pyatt, D.W., Yang, J, Stillman, W.S. and Irons, R.D. 2000 "Dithiocarbamates inhibit hematopoiesis via a copper dependent mechanism." *Biochemical and Biophysical Research Communications*, V274(2):513-518.

Pyatt, D.W., Mehos, B., Yang, J. and Irons, R.D. 2000 "Effects of the anti-rheumatic herbal medicine, Tripterygii, on $CD34^+$ bone marrow cell function and survival." *Molecular Pharmacology,* V57:1-7.

Pyatt, D.W., Stillman, W.S., Yang, J., Cano, L.L. and Irons, R.D. 2000 "Hydroquinone, an active metabolite of benzene, inhibits PMA-induced activation of NF-κB in primary human CD19+ B lymphocytes." *Cell Biology and Toxicology,* V16 (1):41-51.

Pyatt, D.W., Stillman, W.S., Yang, J., Zheng, T., Gross, S. and Irons, R.D. 1999 "An essential role for NF-κB in human $CD34^+$ bone marrow cell survival." *Blood,* V93 (10):1-8.

Pyatt, D.W., Stillman, W.S. Gruntmeir, J. and Irons, R.D. 1998 "Dimethyldithiocarbamate (DMDTC) inhibits activation of human $CD4^+$ T lymphocytes." *Toxicology*, V128:83-90.

Pyatt, D.W., Stillman, W.S. and Irons, R.D. 1998 "Hydroquinone, a reactive metabolite of benzene, inhibits NF-□κB in primary human $CD4^+$ T lymphocytes." *Toxicology and Applied Pharmacology*,V149:178-184.

Irons, R.D. and Pyatt, D.W. 1997 "Dimethyldithiocarbamate is a Potential Confounder in Butadiene Epidemiology." *Carcinogenesis,* V19(4):539-542.

Gross, S., Helm, K., Gruntmeir, J., Pyatt, D.W., Stillman, W.S. and Irons, R.D. 1997 "Characterization and phenotypic analysis of differentiating $CD34^+$ human bone marrow cells in liquid culture." *European Journal of Haematology*, V.59:318-326.

Pyatt, D.W., Stillman, W.S. and Irons, R.D. 1996 "Reactive oxygen species mediate stem cell factor synergy with GM-CSF in a sub-population of primitive hematopoietic progenitor cells." *Molecular Pharmacology*, V49:1097-1103.

Pyatt, D.W., Stillman, W.S. and Irons, R.D. 1996 "Inorganic lead activates the nuclear transcription factor, NF-*k*B, in primary human $CD4^+$ T-Lymphocytes." *Biochemical and Biophysical Research Communications*, V227:380-385.

Book Chapters:

Pyatt, D.W. 2004 "Benzene and Hematopoietic Malignancies", Industrial Solvents and Human Health, Part 1, *Clinics in Occupational and Environmental Medicine*, V4, No. 1, p.529-555.

Abstracts:

Hays, S., Aylward, L., Pyatt, D. 2010 "Using the Biomonitoring Equivalent for Benzene to Help Interpret Biomonitoring Data" SOT, 2010 Annual Meeting.

Pyatt, D., Hays, S., Aylward, L. 2009 "Benzene and Childhood Leukemia" Benzene, 2009, Health Effects and Mechanisms of Bone Marrow Toxicity, Munich, Germany, Sept, 2009.

Hays, S., Aylward, L., Pyatt, D. 2009 "Biomonitoring Equivalent for Benzene" Benzene, 2009, Health Effects and Mechanisms of Bone Marrow Toxicity, Munich, Germany, Sept, 2009.

Pyatt, D., Aylward, L., and Hays, H. 2008. "Biomonitoring equivalents: Case studies" Abstract #1197, *Toxicologist* 108(2):776.

Pyatt, D. 2008 "The critical interaction between hematopoietic progenitors cells (HPC) and the bone marrow microenvironment in normal hematopoiesis and hematopoietic toxicology" 47th SOT Annual Meeting in Seattle WA, CE Course, AM03.

Golden, R. and Pyatt, D. 2007. "Can inhaled formaldehyde result in hematopoietic malignancies?" Abstract No. 1964, *Toxicologist* 96(1):405.

Pyatt, D., S. Hays, L. Aylward, P. Kerzic, and Borgert, C.. 2007. "The role of hematotoxicity in chemically induced acute myeloid leukemia". Abstract No. 1963, *Toxicologist* 96(1):405

Hays, S., L. Aylward, D. Pyatt, H. Leung and Becker, R. 2007. "Interpreting human biomonitoring data in a risk assessment context: Biomonitoring equivalents". Abstract No. 427. *Toxicologist* 96(1):89

Pyatt, D., Golden, B and Borgert, C. 2006 "The relationship between hematotoxicity and the development of chemically induced acute myelogenous leukemia" Third International Symposium on Secondary Leukemia and Leukemogenesis, Rome, Italy

Buchanan, S., Toner, M., Pyatt, D., and Carpenter, J. 2006 "Successful lyophilization and storage of human hematopoietic stem and progenitor cells derived from umbilical cord blood." American Association of Pharmaceutical Science, 2006 Annual Meeting

Pyatt, D.W. and Borgert, C.J. 2006 "Is bone marrow damage and hematopoietic toxicity a requirement for chemically-induced AML?" *Experimental Hematology, V34, No.9, S.1,* #126

Pyatt, D.W. and Golden, B. 2006 "Can inhaled formaldehyde result in hematopoietic malignancies?" *Experimental Hematology, V34, No.9, S.,* #127

Pyatt, D.W. and Hays, S. 2006 "Age related differences in secondary malignancies in children: Lessons learned from the pediatric clinical experience." *Toxicological Sciences* V.97, S1, #114

Pyatt, D.W. and Hays, S., 2005 "Biomarkers of Susceptibility" Annual Meeting Society of Risk Analysis

Hays, S. and Pyatt, D.W. 2005 "Interpreting Biomarkers of Exposure" Annual Meeting Society of Risk Analysis

Pyatt, D.W., Hays, S. Cushing, C. 2005 "Are there age related differences in Children's Susceptibility for Developing Secondary Acute Myelogenous Leukemia?" *Toxicological Sciences* V.89, S1, #258

Paustenbach, D. J., Madl, A.K., Unice K., Scott P., Robinson, K. P. Scaramella, K.P., and Pyatt, D.W. 2005 "Exposure Reconstruction of Historical Airborne Benzene Concentrations: Case study of a Deck Crewman on board Crude Oil and Chemical Tankers". *Toxicological Sciences* V.89, S1, #411

Pyatt, D.W., Hays, S. Cushing, C. 2004 "Do Children Have Increased Susceptibility for Developing Secondary Acute Myelogenous Leukemia?" Recent Advances in Benzene Toxicity, Munich, Germany, Oct 9-12

Madl, A., Pyatt, D.W., Widner, T. E., and Paustenbach, D. J. 2004 "Airborne Benzene Concentrations Associated with Chainsaw Use during Tree Trimming Operations". International Society of Exposure Assessment

Buchanan, Sandhya, Menze, Michael, Hand, Steven C, Carpenter John, and Pyatt, D.W. 2004 "Permeabilization of Hematopoietic Progenitor Cells to Trehalose using P2Z Purinoreceptor-Associated Pores for the Purpose of Cryopreservation". *Experimental Hematology,* V.39, (9), #37.

Kerzic, P., Pyatt, D., Zheng, T., Le, A., and Irons, R. 2004 "Selective inhibition of I kappa kinase (IKK) by benzene metabolites". *Experimental Hematology*, V.39, (9), #234

Hays, Sean, M., Cushing, C., Leung, H-W., Pyatt, D., Holicky, K. and Paustenbach, D. 2003 "Exposure of infants and children in the U.S. to the flame retardant decabromodiphenyl oxide (DBDPO)". Society of Risk Assessment, Baltimore MD

Kerzic, P., Pyatt, D., Zheng, T., Le, A., and Irons, R. 2003 "Direct Inhibition of I Kappa Kinase Activity by Benzene Metabolites Sensitizes Bone Marrow Cells to Cytokine-Induced Apoptosis". *Toxicological Sciences* V.72, S1, #1716

Cushing, C.A., Holicky, K., Pyatt, D.W., Staskai, D., Finley, B. L., Paustenback, D.J., Hay, S.M. 2003 "Estimated Children's Exposure to Decabromodiphenyl Oxide in the US." *Toxicological Sciences* V.72, S1, #1906

Freed, B.M., Ouyang, Y., Yang, J., Pyatt, D.W., McCue, J. 2003 "Suppression of Inflammatory Cytokine Production by Cigarette Smoke is Mediated by Acrolein" *Toxicological Sciences* V.72, S1, #841

Buchanan, S, Gross, S, Acker, J.P. Toner, M., Carpenter, J, and Pyatt, D.W. 2002 "A Novel Technique for Long-term Cryopreservation of HPC using Non-toxic Sugars." *Society of Cryobiology*, 2002 Annual Meeting

Zheng, T, Gross, S, Pyatt, D, Kerzic, P, and Irons, R 2002 "Alterations in a GM-CSF Signaling Pathway by the Benzene Metabolite Hydroquinone" *Experimental Hematology* V.30, (6), #205

Kersic, P., Pyatt, D. W., Yang, J., Zheng, T., and Irons, R. D. 2002. "Hydroquinone inhibits NF-kB and Synergizes with TNF in the Induction of Apoptosis inCD34+ Hematopoietic Progenitor Cells." *Experimental Hematology* V.30, (6), #59

Buchanan, S Gross, S, Acker, J.P. Toner, M. Carpenter, J and Pyatt, D.W. 2002 "A Novel Technique for Long-term Cryopreservation of Hematopoietic Progenitor Cells using Intracellular Trehalose." *Experimental Hematology* V.30, (6), #380

Lowney, Y., Tsuji, J., Pyatt, D.W., Yost, L., Cushing, C., and Paustenbach, D. 2002 "Children's Exposure to Metals from CCA Treated Wood: Important Factors in Assessing Inadvertent Ingestion Exposures. *International Society of Exposure Assessment*

Gross, S. A., Pyatt, D. W. and Irons, R. D. 2001 Altered phosphorylation of PU.1 by the benzene metabolite Hydroquinone. *Experimental Hematology* V. 22 (5), #278

Ouyang, Y., Zheng, J., Yang, Y., Pyatt, D.W., Irons, R.D. and Freed, B.M. 2001 "Suppression of Human Cytokine Expression by the Vapor from Cigarette Smoke Extracts is Mediated by Decreased NF-κB and AP.1. *The Toxicologist* V, V60, (1), #131

Gross, S.A., Pyatt, D.W., Shpall, E.J., Bearman, S., and McNiece, I. 2000 "Ex vivo expansion of CD3+ cells from umbilical cord blood for use as donor lymphocyte infusions in relapse patients". *Experimental Hematology*, 28, p89 #185

Pyatt, D.W., Stillman, W.S., Yang, J. Le, A. and Irons, R.D. 2000 "Hematotoxicity of Dithiocarbamates on $CD34^+$ Human Bone Marrow Cells". *The Toxicologist* V54, 1-S, #.1654

Pyatt, D.W., Stillman, W.S., Yang, J. Le, A. and Irons, R.D. 2000 "Hematotoxicity of the Chinese Herbal Medicine, *Tripterygium Wilfordii* Hook f in $CD34^+$ Human Bone Marrow Cells". *The Toxicologist* V54, 1-S, #. 1655

Baker, R., Pyatt, D.W., Irons, R.D., and Kroll, D. 2000 "Catalytic Inhibition of Topoisomerase II alpha by Benzene Metabolites". *The Toxicologist* V54, 1-S, #.1656

Gross, S.A., Shpall, E.J., Bearman, S., Pyatt, D.W., and McNiece, I. 1999 "Ex vivo culture of cord blood T cells for use as donor lymphocyte infusions in relapsed patients". *Blood* V94, No. 10, Supp 1, p.4695

Gross, S.A., Shpall, E.J., Bearman, S., Pyatt, D.W., and McNiece, I. 1999 "Ex vivo expansion of cord blood T cells for use as donor lymphocyte infusions in relapsed CML patients.'Division of Medical Oncology Poster Session, School of Medicine, University of Colorado Health Sciences Center, Denver, CO

Pyatt, D.W., Yang, J., Zheng, J., Stillman, W.S., and Irons, R.D. 1999 "Inhibition of NF-□B in Primary Human $CD19^+$ B Lymphocytes by Hydroquinone." *The Toxicologist* V48, 1-S, P.824

Gross, S.A., Pyatt, D.W., Yang, J., Zheng, J., Stillman, W.S., and Irons, R.D. 1999 "Hydroquinone Alters the Phosphorylation State of the Transcription Factor PU.1 in Human $CD34^+$ Hematopoietic Progenitor Cells." *The Toxicologist* V.48, 1-S, p. 172

Pyatt, D.W., Stillman, W.S., Yang, J. and Irons, R.D. 1998 "A Potential Role for NF-□B in Human CD34+ Bone Marrow Cell Function and Survival." International Society of Experimental Hematology , Experimental Hematology V. 26, N.8, p.735

Gross, S.A., Pyatt, D.W., Yang, J., Stillman, W.S., and Irons, R.D. 1998 "Hydroquinone Alters DNA Binding Activity of the Transcription Factor PU.1 in Human CD34+ Hematopoietic Progenitor Cells." The Toxicologist V. 42,1-S, p.269

Pyatt, D.W., Stillman, W.S., and Irons, R.D. 1998 "Hydroquinone Inhibits NF-□B in Primary Human CD4+ T Lymphocytes." *The Toxicologist* V. 42,1-S, p. 270.

Irons, R.D., Pyatt, D.W., Gross, S., Gruntmeir, J. and Stillman, W.S. 1997 "Characterization of the Effects of Hematotoxic Agents on Differentiating $CD34^+$ Human Bone Marrow Cells in Liquid Culture." First International Symposium on Hematotoxicology, Palazzo dei Congressi, Lugano, Switzerland

Pyatt, D.W., Stillman, W.S., Zheng J-H., and Irons, R.D. 1997 "Activation of NF-□B in Primary Human $CD4^+$ Lymphocytes by Lead Acetate." *The Toxicologist* V.36, p.262

Luckey, S.W., Pyatt, D.W., and Irons, R.D. 1997 "Nuclear Factor-□B Activation and Regulation of IL-2 Receptor Alpha Chain Expression by Nickel Chloride in Primary Human $CD4^+$ Lymphocytes." *The Toxicologist* V.36, p.264

Pyatt, D.W., Stillman, W.S., and Irons, R.D. 1996 "Antioxidants selectively suppress stem cell factor synergy in murine hematopoietic progenitor cells (HPC)." *The Toxicologist* V.30, p.133

Pyatt, D.W., Stillman, W.S. and Irons, R.D. 1995 "Inorganic Lead Mimics Stem Cell Factor is a Select Subpopulation of Murine Hematopoietic Cells". Graduate Student Research Forum, University of Colorado Health Sciences Center, Denver, CO

Pyatt, D.W., Stillman, W.S., and Irons, R.D. 1995 "Hematopoietic Alterations Induced By Lead in Bone Marrow Derived Progenitor Cells May Be Mediated By Reactive Oxygen Intermediates". *The Toxicologist* V.15, p.221

Pyatt, D.W., Stillman, W.S., and Irons, R.D. 1995 "Reactive oxygen species are required for Stem Cell Factor and Interleukin-3 mediated signal transduction in a subpopulation of primitive hematopoietic progenitor cells in C57BL/6 mice." Research Forum, University of Colorado School of Pharmacy, Denver, CO

Pyatt, D.W., Stillman, W.S., and Irons, R.D. 1995 "Reactive oxygen species mediate stem cell factor synergy in murine hematopoietic progenitor cells." Mountain West Society of Toxicology, Ft. Collins, CO

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Deposition Testimony

1) *Wilkerson vs. Radiator Specialty Company, et al.*, Cause No. A-030272CC, 128th Judicial District Court of Orange County, TX. Testimony given on May 17, 2006.

2) *Remboldt vs. ChevronTexaco et al.*, No. C04-00739, Superior Court of the State of California. Testimony given on May 31, 2006.

3) *Barker vs. Kenan Transport,* OOJ Case ID: 00J-A205-022392, Carrier No. 2005022392, West Virginia Workers Compensation Office of Judges. Testimony given on September 6, 2006.

4) *Detel vs. BP Corporation North America, Inc., et al.*, Case No. 04- CV 207637, Division 16, Circuit Court of Jackson County, Missouri at Independence. Testimony given on September 21, 2006.

5) *Reed vs. BP Corporation North America, Inc., et al.*, Case No. 04- CV 209341, Division 16, Circuit Court of Jackson County, Missouri at Independence. Testimony given on May 8, 2007.

6) *Solis vs. Cardinal Finishes et al.*, No. SCO84100, Superior Court of the State of California for the County of Los Angeles. Testimony given on Dec 15, 2007.

7) *Behymer vs. BP Corporation North America, Inc., et al.*, Case No. 04- CV 238342, Division 16, Circuit Court of Jackson County, Missouri at Independence. Testimony given on Feb 13, 2008.

8) *Henrickson v. ConocoPhillips Company*, Case No. CV-07-224-JLQ, US District Court, Eastern District of Washington at Spokene. Testimony given on April 17, 2008.

9) *Saltonstall v Dunn-Edwards Corporation, et al.* Case No. BC325583, Superior Court of the State of California, County of Los Angeles, Central District. Testimony given on May 1, 2008.

10) *Baker v Chevron*, Civil Action No. 1:05 CV 227, US District Court for the Southern District of Ohio, Western Division. Testimony given on Aug 13, 2008.

11) *Stromberg v Ashland*, Case No.: 1:07-CV-332, US District Court for the Middle Distric of North Carolina. Testimony given on Sept 19, 2008.

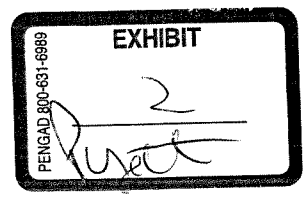
12) *Oakley v US Steel*, Cause No. 2:07-CV-00351; In the Unites States District Court for the Eastern District of Texas; Marshall Division. Testimony given on November 7th, 2008.

13) *Thorpe v Safety-Kleen Systems, Inc.*, Case Nos. BC348287, Superior Court of the State of California, County of Los Angles, Central Civil West. Testimony given on December 16, 2008.

14) *Brian K. Milward v Acuity Specialty Products Group, Inc.* Civil Action No. 1:07-cv-11944. U.S District Court, District of Massachusetts. Testimony given on Feb 18th, 2009.

15) *George Moore v Shell Oil Company, et al.* Case No. VC 047939, Superior Court of the State of California for the County of Los Angeles. Testimony given on Mar 13th, 2009.

16) *James Bishop, Jr. et al. v. Shell Oil Company,* USDC, Eastern District of Louisiana, Docket No. 07-283. Testimony given on June 24, 2009.



17) *Lewis and Linda Knapper v. Safety Kleen, Inc. et al.*, Cause No. 9:08-CV-84; In the Eastern District of Texas, Lufkin Division. Testimony given on July 13, 2009.

18) *Bonnie L. Mallory, Executrix of the Estate of Robert E. Mallory, Deceased* v. The Goodyear Tire and Rubber, Co. et al., Court of Common Pleas, Summit CO, Ohio, Case No. 2007-11-8033. Testimony given on July 29, 2009.

19) *Barker vs. Kenan Transport,* OOJ Case ID: 00J-A205-022392, Carrier No. 2005022392, West Virginia Workers Compensation Office of Judges. Testimony given on Aug 6, 2009.

20) *Andrew Wolfe, et al v. E.I. DuPont de Nemours*, General Court Justice Superior Court Division, Forsyth County, NC. Case No. CVS 3370. Testimony given on August 11, 2009.

21) *Sundquist v. BP West Coast Products, L.L.C. et al.*, Superior Court, State of California, County of Los Angeles, Central District, Case No. BC362023. Testimony given on September 2, 2009.

22) *Raul Zendejas and Araceli Zendejas, Plaintiffs vs. Shell Oil Company*, et al; In the Superior Court of Arizona, Maricopa County Cause No.; CV2007-005399. Testimony given on Oct 8, 2009.

23) *Donald Quillen vs. Safety-Kleen Systems, Inc.*, In the US District Court, East District of Kentucky, Central Division at Frankfort, Case No.: 3:07-CV-00067-KKC. Testimony given on January 22, 2010.

24) *Mary Ellen Hall et al., v. Radiator Specialty Company, et al.* In the District Court of Galveston County Texas, 212th Judicial District, Cause No. 08-CV-0161. Testimony given on Feb 5, 2010.

Trial or Hearing Testimony:

1) *Cantu vs. Citco Refining and Marketing, Inc. et al.*, Cause No. 05-2131-H, 347th Judicial District Court of Nueces County, TX. Testimony given on October 17, 2006.

2) *Brian K. Milward v Acuity Specialty Products Group, Inc.* Civil Action No. 1:07-cv-11944. U.S District Court, District of Massachusetts. Testimony given on April 22, 2009.

1) Lacks nosologic clarity or understanding

2) Fails to appreciate HC toxicology or chemistry

3) Ignores statistical significance (or doesn't understand it)

4) Doesn't understand MM or his own declaration
PSC v UDJ

5) Intentionally miscites relevant literature
eg 1 Flodin leaves out BZ 1.1 (0.4 - 3.7)
eg 2 Eriksson leaves out Solvents 0.5 (0.3 - 0.8)
- there are dozens of examples -

