

CURRICULUM VITAE

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Biographical Sketch

Education

1989-1996 Ph.D. Toxicology, University of Kentucky, Lexington, KY
1986-1989 M.S. Chemistry, Middle Tennessee State University, Murfreesboro, TN
1982-1986 B.S. Chemistry/Biology, Middle Tennessee State University,
Murfreesboro, TN

M.S. Thesis (1989) Ultrasonic perturbations in continuous wave nuclear magnetic resonance

Ph.D. Thesis (1996) Purification, characterization and localization of metallothioneins in the mammalian central nervous system: I. Immunocytochemical mapping of metallothioneins and mercury after chronic ingestion of mercuric chloride; II. Purification of metallothionein-II in human frontal cortex.

Professional Appointments

2009-Present Associate Professor, Dept. of Pharmaceutical Sciences,
Belmont University School of Pharmacy
2006-2008 Associate Professor, Dept. of Pharmacology, Marshall University
2002-2006 Assistant Professor, Dept. of Pharmacology, Marshall University
1999-2002 Research Assistant Professor, University of Kentucky
1996-1999 Postdoctoral Scholar, University of Kentucky

Honors & Awards

2007 Delta Kappa Gamma Honorary Women's Teaching Sorority
2005 Graduate Faculty Achievement Award
2004 Who's Who in Medical Sciences Education
1997 Outstanding Young Investigator Award, Oxygen Society Meeting,
San Francisco, CA.
1996 Outstanding Young Investigator Award, Oxygen Society Meeting,
Miami Beach, FL.
1992-1995 National Institute of Environmental Health Sciences Predoctoral
Fellowship, University of Kentucky
1986 Cum Laude, Middle Tennessee State University
1985 Robert Brent Cook Memorial Scholarship
1984 Who's Who Among Students in American Universities & Colleges
1982 National Dean's List
1982-1990 John Holland Memorial Scholarship

Professional Affiliations

American Association of Colleges of Pharmacy (AACP) 2009
West Virginia Academy of Sciences 2007
Society for Free Radicals in Biology & Medicine 1996

Professional Service**Manuscript Reviewer:**

The American Journal of Medical Sciences
Biochemistry
Biochemical Journal
British Journal of Cancer
International Journal of Cancer
Toxicology
Toxicology Letters
Toxicological Sciences
International Journal of Cancer
Oncogene
Free Radicals in Biology and Medicine

Grant Reviewer:

Dutch Cancer Society, 2006
WV-INBRE Network Research Institution Competition,
2005

Committees:

Belmont University School of Pharmacy Promotion &
Tenure Committee, 2009
Belmont University School of Pharmacy Faculty Search
Committee, 2009
Belmont University School of Pharmacy Curriculum
Committee, 2009
Medical School Curriculum Committee, 2007-2008;
Marshall University.
Department of Pharmacology, Physiology and Toxicology
Faculty Search Committees, 2006
Professional Development Subcommittee, Women in
Science Committee: Society for Free Radicals in Biology
& Medicine 2005-Present
Graduate Studies Committee (Elected Member): 2005-
Present
Biotechnology Building Committee, 2005
Medical School Curriculum Committee, 2004-2005;
MUSOM
Graduate Student Mentoring/Rotation Committee, 2005-
Present
Department of Biochemistry Faculty Search Committee,
2005
Graduate Studies Committee: Interim Member, 2005
Department of Pharmacology Faculty Search Committees,
2002-2004

Presentations

- 2005 The Role of Redox Status and AP-1 in Thimerosal-Induced Toxicity, NIOSH, Morgantown, West Virginia.
- 2004 Pharmacological Use of Retinoids in Cancer Therapy: Assessing the role of reactive oxygen species (ROS), Graduate Center for Toxicology Seminar Series, University of Kentucky
- 2003 The Role of Manganese Superoxide Dismutase in Retinoid Differentiation of Neuroblastoma. Free Radical Research Group, University of Kentucky.
- 2003 A "Radical" Approach to Cardiovascular Disease. St. Mary's Cardiovascular Seminar Series, Huntington, WV.
- 2001 Redox Regulation of Life and Death Decisions: The Role of Mitochondrial Antioxidant Status. Graduate Center for Nutritional Sciences Seminar Series, University of Kentucky
- 1999 Manganese Superoxide Dismutase: It's a Matter of Life and Death! Graduate Center for Toxicology Seminar Series, University of Kentucky
- 1998 The Role of Mitochondrial Superoxide Dismutase in the Defense Against Oxidative Stress Induced by Xenobiotic and Endobiotic Sources. Society of Toxicology, Seattle Washington

Teaching Experience

- 2009 Microbiology & Immunology (PHM6150), Belmont University School of Pharmacy
- 2009 Pharmacodynamics II (PHM6145), Belmont University School of Pharmacy
- 2008 Course Director, Pharmacological Reviews (PMC 655), Marshall University (Summer Session; Signal Transduction Pathways Which are Activated in Response to Injury)
- 2008 Lecturer, Mechanisms of Drug Action, Introduction to Pharmacology, Marshall University
- 2008 Course Director, Medical Pharmacology
- 2007 Lecturer, Chemotherapeutics, Cancer Biology, Marshall University
- 2007 Lecturer, Chemical Carcinogenesis, Cancer Biology, Marshall University
- 2006-Present Communications, Biomedical Sciences, Marshall University
- 2006 Men's Health Fair; Chemotherapeutic Treatment of Prostate Cancer, Marshall University
- 2006-2008 Invited Lecture; Central Nervous System Metabolism, Elimination and Detoxification; University of Kentucky's Graduate Center for Toxicology
- 2005 Course Director, Medical Pharmacology
- 2005 Women's Health Fair; Chemotherapeutic Treatment of Breast Cancer, Marshall University
- 2004 Lecturer, General Toxicology (PMC 650), MUSOM
Mechanisms of Cell Injury
Peripheral and Central Nervous System Toxins
Immunotoxins
Pesticides
Plant Toxins

Animal Toxins
Chemical Carcinogens
Metal Toxicity

- 2003-present Lecturer, Molecular Cloning (BMS 670/BSC 483), MUSOM
Transient and Stable Transfection Techniques
- 2002-present Lecturer, Cellular and Molecular Biology (BMS 600), MUSOM
Cell Signaling
- 2002-present Lecturer, Introduction to Pharmacology, MUSOM
Absorption and Distribution in Pharmacology
- 2002-present Lecturer, Medical Pharmacology, MUSOM
Introduction to CNS Pharmacology
Anesthetics: General and Local
Opiates
Anxiolytics and Sedative Hypnotics
Antidepressants
Drugs in the Treatment of Movement Disorders
Stimulants
Antipsychotics
Anticonvulsants
- 2001 Mentor, Outreach Summer Study Program. Provided daily
supervision and training of a high school student interested in
pursuing scientific studies in college. Univ. of KY
- 1997-2001 Lecturer, Contemporary Toxicology (TOX 509); Univ. of KY
Introduction to General Toxicology
- 1997-2002 Lecturer, Advanced Toxicology (TOX 680); Univ. of KY
Oxidative Stress in Pulmonary Toxicology
- 1996 Mentor, Howard Hughes Summer Study Program. Provided daily
supervision of undergraduate student pursuing an independent
research project.
- 1986-1989 Graduate Teaching Assistant. Organized and taught laboratory
and review classes in general, organic and biochemistry

Graduate Student Training:

- Chotiros Daosukho (Committee member, Ph.D granted 2004; University of Kentucky)
- Sam Kalou (Committee member, M.S. granted 2003; Biomedical Sciences
Program/Pharmacology; Marshall University)
- Michelle Humphrey (Chair of committee, Ph.D. candidate; Marshall University)
Ph.D. Granted 2006
Current Position: Faculty, University of Charleston School of Pharmacy
- Marcus Terneus (Committee member, Ph.D. candidate; Marshall University)
Ph.D. Granted 2006
Currently: Enrolled in Joan C. Edwards School of Medicine

Aaron Holley (Committee member, Ph.D. candidate; Marshall University)
 Ph.D. Granted 2008
 Currently: Postdoctoral fellow, Graduate Center for Toxicology, University of Kentucky

Lauren Richards Waugh (Committee member, Ph.D. candidate; Marshall University)

Zina Cardozo (Chair of committee, Ph.D candidate; Marshall University)
 Ph.D. Granted 2008
 Current Position: Pharmacy Intern, Rite Aid Pharmacy, Huntington, West Virginia

Melinda Asbury (Chair of committee, Ph.D. candidate; Marshall University)

Amy Nash (Committee member, Ph.D. candidate; Marshall University)

Melinda Varney (Committee member, Ph.D. candidate; Marshall University)

Sandeep Joshi (Committee member, Ph.D. candidate; Marshall University)

Anne Silvis (Chair of committee, Ph.D. candidate; Marshall University)

Mike Brown (Committee member, Ph.D. candidate; Marshall University)

Aileen Marcelo (Committee member, Ph.D. candidate; Marshall University)

Summer Students Mentored:

Jon Davis, Undergraduate at Ashland Community College; 2002-2003
 John Christopher Stewart, Undergraduate at Marshall University; 2002-2004
 Samuel Vermani, Undergraduate at the University of Louisville; 2003
 Tabetha Davis, WV-INBRE Summer Research Program; 2005
 Mariela Tassone, High school student (Summers of 2005-2007); Undergraduate at Vanderbilt University (2008)
 Virginia Hunter, WV-INBRE Summer Research Program; 2007

Faculty Mentored:

Dr. Mark Flood, Fairmont State University; WV-INBRE program 2008

Graduate Student Educational Meeting:

2005: National Meeting of Directors of Graduate Studies in Pharmacology; Vanderbilt University, Nashville, TN.

Continuing Education/Professional Development

2009 Belmont University Spring Teaching Symposium

2009 Identifying Course Goals: Determining Course Structure and Activities, Sponsored by Belmont University School of Pharmacy, Dr. Eric Hobson

2006 Preparing for NIH Electronic Grant Applications, Sponsored by Marshall University Research Corporation

2006 Gene Set Enrichment Analysis Seminar, Sponsored by Marshall University, Genomics Core

2005 Early Career Women Faculty Professional Development Seminar, Sponsored by the Association of American Medical Colleges and Harvard Medical School, Department of Continuing Education, Santa Fe, NM

2005 Opening Doors: Leading the Laboratory; Sponsored by Society of Free Radicals in Biology and Medicine, Austin, TX

2004 Creating your style: What is your teaching perspective/learning perspective? Dr. Nancy Bennett. Faculty development workshop, MUSOM.

2004 How to be an effective course director. Faculty development workshop, MUSOM.

2003 Writing winning grants. Dr. Stephen Russell. Marshall University EPSCoR-

sponsor. Faculty development workshop.

National Meetings Attended

- 2008 Blending Addiction Science & Treatment: The Impact of Evidence-Based Practices on Individuals, Families and Communities (Sponsored by National Institutes of Drug Abuse), Cincinnati, OH.
- 2007 Society of Free Radicals in Biology in Medicine, Washington, D.C.
- 2006 Society of Free Radicals in Biology in Medicine, Denver, Colorado
- 2005 American Association of Cancer Research, Anaheim, California.
- 2005 Society of Free Radicals in Biology in Medicine, Austin, Texas
- 2003 Society of Free Radicals in Biology in Medicine, Seattle, Washington
- 2002 Society of Toxicology, Nashville, Tennessee
- 2002 Society of Free Radicals in Biology in Medicine, San Antonio, Texas

Peer Review Publications

1. **Kinningham, K.**, Bi, X., Kasarskis, E.J. Neuronal localization of metallothioneins in rat and human spinal cord. *Neurochemistry International*. 1995; 27(1):105-109.
2. **Kinningham, K.**, St. Clair, D.K. Overexpression of manganese superoxide dismutase selectively modulates the activity of Jun-associated transcription factors in fibrosarcoma cells. *Cancer Res*. 1997; 57:5265-5271.
3. **Kinningham, K.**, Kasarskis, E.J. Antioxidant function of metallothioneins. *The Journal of Trace Elements in Experimental Medicine*. 1998; 11(2/3):219-226.
4. Townsend, A.J., **Kinningham, K.K.**, St. Clair, D.K., Tephly, T.R., Morrow, C.S., Guengerich, F.P. Symposium overview: Characterization of xenobiotic metabolizing enzyme function using heterologous expression systems. *Toxicol. Sci*. 1999; 48:143-150.
5. Xu, Y., **Kinningham, K.K.**, Devalaraja, M.N., Yeh, C.C., Majima, H., Kasarskis, E.J., St. Clair, D.K. An intronic enhancer is responsible for regulation of the human manganese superoxide dismutase gene by tumor necrosis factor alpha and interleukin-1 β . *DNA & Cell Biol*. 1999; 18(9):709-722.
6. **Kinningham, K.K.**, Oberley, T.D., Lin, S.M., Mattingly, C.E., St. Clair, D.K. Manganese superoxide dismutase (MnSOD) protects against mitochondrial-initiated polyADP ribose polymerase-mediated cell death. *FASEB J*. 1999; 13:1601-1610.
7. **Kinningham, K.K.**, Xu, Y., Popova, B., St. Clair, D.K. NF κ B dependent mechanisms coordinate the synergistic effect of TPA and cytokines on SOD2 induction. *Biochem. J*. 2001; 353:147-156.
8. Zhao, Y., **Kinningham, K.K.**, Lin, S.M., St. Clair, D.K. Overexpression of MnSOD prevents murine fibrosarcoma cells (FSa-II) from apoptosis and promotes a differentiation program upon treatment with 5-azacytidine: Involvement of MAPK and NF κ B pathways. *Antioxidants & Redox Signaling*. 2001; 3(3):375-386.
9. Zhao, Y., Xue, Y., Oberley, T.D., **Kinningham, K.K.**, Lin, S.M., Yen, H.C., Majima, H., Hines, J., St. Clair, D.K. Overexpression of MnSOD suppresses tumor formation by modulation of activator protein-1 signaling in a multistage skin carcinogenesis model. *Cancer Res*. 2001; 61(16):6082-6088.
10. Porntadavity, S., Xu, Y., **Kinningham, K.K.**, Rangnekar, V.M., Prachayasittikul, V., St. Clair, D.K. TPA-activated the transcription of the human MnSOD gene: The role of transcription factors SP-1 and Egr-1. *DNA & Cell Biol*. 2001; 20(8):473-481.
11. St. Clair, D.K., Porntadavity, S., Xu, Y., **Kinningham, K.K.** Transcription regulation of the human manganese superoxide dismutase gene. *Methods in Enzymology*. 2002; 349:306-312.

12. Daosukho, C., **Kinningham, K.K.**, Ittarat, W., St. Clair, D.K. The modulation of NF κ B p50/p50 dimerization is responsible for enhancement of TNF- α mediated MnSOD induction by tamoxifen. *Oncogene*. 2002; 21(22):3603-3610.
13. Oberley, T.D., Xue, Y., Zhao, Y., **Kinningham, K.K.**, Szveda, L.I., and St. Clair, D.K. In situ reduction of oxidative damage, increased cell turnover, and delay of mitochondrial injury by overexpression of manganese superoxide dismutase in a multistage skin carcinogenesis model. *Antioxidants and Redox Signaling* 2004; 6(3):537-548.
14. **Kinningham, K.K.**, Daosukho, C., and St. Clair, D.K.S. Inhibitory kappa binding protein alpha identified as labile repressor of manganese superoxide dismutase expression. *Biochemical Journal* 2004; 384(3):543-549.
15. Humphrey, M.L., Cole, M.P., Pendergrass, J.C., and **Kinningham, K.K.** Mitochondrial mediated thimerosal-induced apoptosis in a human neuroblastoma cell line (SK-N-SH). *NeuroToxicology* 2005; 26:407-416. **Featured on the Cover.**
16. Harmon, C.R., Terneus, M.V., **Kinningham, K.K.** and Valentovic, M. Time dependent effect of p-Aminophenol (PAP) toxicity in renal slices and development of oxidative stress. *Toxicology and Applied Pharmacology*, 2005; 209:86-94.
17. Daosukho, C., Ittarat, W., Lin, S.-M., Sawyer, D.B., **Kinningham, K.** and St. Clair, D.K. Induction of manganese superoxide dismutase reveals a mechanism for cardioprotective tamoxifen effect. *Journal of Molecular and Cellular Cardiology*, 2005; 39(5): 792-803.
18. Harmon, R.C., **Kinningham, K.K.**, and Valentovic, M.A. Pyruvate reduces 4-aminophenol In vitro Toxicity. *Toxicology & Applied Pharmacology*, 2006; 213:179-186.
19. Cole, M.P., Chaiswing, Luksana, Oberley, T.D., Edelman, S.E., Piascik, M.T., Lin, S.-M., **Kinningham, K.K.** and St. Clair, D.K. The protective roles of nitric oxide (*NO) and superoxide dismutase (SOD) in adriamycin (ADR)-induced cardiotoxicity. *Cardiovascular Res.* 2006; 69(1): 186-197.
20. Moore, M.R., Spence, J.B., **Kinningham, K.K.**, and Dillon, J.L. Progesterin inhibition of cell death in human breast cancer cell lines. *Journal of Steroid Biochemistry and Molecular Biology*, 2006; 98:218-227.
21. Cole, M.P., Chaiswing, L., Oberley, T.D., **Kinningham, K.K.**, and St. Clair, D.K. Nuclear interaction between ADR-induced p65 and p53 mediates exacerbation of cardiac injury in mice lacking iNOS. In revision, 2006.
22. Herdman, M.L., Marcelo, A., Huang, Y., Niles, R.M., Dhar, S., and **Kinningham, K.** Thimerosal induces apoptosis in a neuroblastoma model via the cJun N-terminal kinase pathway. *Toxicological Sciences*, 2006; 92(1):246-253.
23. Anantharaman, M., Tangpong, J., Keller, J.N., Murphy, M.P., Markesbery, W.R., **Kinningham, K.K.**, St. Clair, D.K. Beta-amyloid mediated nitration of MnSOD: Implication for oxidative stress in an APP^{NLh/NLh} x PS-1^{P264L/P264L} double knock-in mouse model of Alzheimer's disease. *American Journal of Pathology*, 2006.; 168(5):1608-1618.
24. Terneus, M.V., **Kinningham, K.K.**, Carpenter, A.B., Sullivan, S. and Valentovic, M. Comparison of S-Adenosyl-L-methionine and N-acetylcysteine Protective Effects on Acetaminophen Hepatic Toxicity, *J. of Pharmacol and Exp Ther.*, 2007; 320:99-107.
25. **Kinningham, K.K.**, Cardozo, Z.A., Cook, C., Cole, M.P., Stewart, J.C., Tassone, M., Coleman, M.C. and Spitz, D.R. All-*trans* retinoic acid induces manganese superoxide dismutase in human neuroblastoma through NF κ B. *Free Radical Biol & Medicine* 2008; 44:1610-1616.
26. Holley, A.K., **Kinningham, K.K.**, Spitz, D.R., Edwards, D.P. and Moore, M.R. Progesterin stimulation of manganese superoxide dismutase in T47D human breast cancer cells. Submitted to *J. of Endocrinology*, 2008.

Book Chapters

1. Cole, M.P., Chaiswing, L., Oberley, T.D., **Kinningham, K.K.** and St. Clair, D.K. Superoxide, superoxide dismutases and cardiovascular dysfunction. In: Mechanisms of Cardiovascular Aging. Ed. T. Hagen, 11:233-280, Elsevier, 2002.

Web-Based Learning

X-Pharm: The Pharmacology Database. On-line contributing author
<http://www.xpharm.com>

Service

1. Volunteer, Huntington Area Food Bank; 2004-2008
2. Volunteer, Salvation Army Christmas Toy Drive; 2004
3. Science Fair Judge, Burlington Elementary School; 2005
4. Science Fair Judge, South Point Ohio Elementary; 2008
5. Clinical Research Poster Judge, 21st Annual Research Day, Marshall University; 2008.

Abstracts

1. **Kinningham, K.** and Kasarskis, E.J. Mercury toxicity: Band III mediated transport. Society of Neuroscience Meeting, Anaheim, CA. 1992, 18:1609.
2. **Kinningham, K.**, Bi, G.X., and Kasarskis, E.J. Metallothionein: Nuclear localization in spinal cord. Society of Neuroscience Meeting, Washington, D.C. 1993, 19:198.
3. **Kinningham, K.** and Kasarskis, E.J. Isoform purification in human frontal cortex. Society of Neuroscience Meeting, Miami, FLA 1994, 20:1653.
4. **Kinningham, K.**, Lin, A., and St. Clair, D.K. Overexpression of manganese superoxide dismutase (MnSOD) modulates activity of the transcription factors AP-1 and CREB. The Oxygen Society Meeting, Miami Beach, FLA 1996.
5. **Kinningham, K.**, Oberley, T.D, Sempf, J., and St. Clair, D.K. Overexpression of manganese superoxide dismutase (MnSOD) protects against mitochondrial-mediated hypoxic cell death. The Oxygen Society Meeting, San Francisco, CA 1997.
6. St. Clair, D.K., Oberley, T.D., Majima, H. and **Kinningham, K.K.** The role of mitochondrial superoxide dismutase in the defense against oxidative stress induced by xenobiotic and endobiotic sources. SOT Symposium, Seattle, WA. 1998.
7. St. Clair, D.K., Yen, H.C., Safford, S., Urano, M., Kuroda, M., **Kinningham, K.K.**, Ho, Y.S., and Oberley, T.D. The role of MnSOD in drug resistance and cardiac toxicity. The Oxygen Society Meeting, Washington, D.C. 1998.
8. Xu, Y., **Kinningham, K.K.**, Devalaraja, M.N., Yeh, C.C., Majima, H., Kasarskis, E.J., and St. Clair, D.K. Identification of enhancer elements responsible for regulation of the human MnSOD gene by TNF and IL-1. The Oxygen Society Meeting, Washington, D.C. 1998.
9. **Kinningham, K.K.**, Oberley, T.D., and St. Clair, D.K. Manganese superoxide dismutase (MnSOD) protects against mitochondrial-mediated programmed cell death. The Oxygen Society Meeting, Washington, D.C. 1998.
10. **Kinningham, K.K.**, Daosukho, C., and St. Clair, D.K. Dimethyl sulfoxide (DMSO) enhances cytokine inducibility of the SOD2 gene. The Oxygen Society Meeting, New Orleans, LA 1999.
11. **Kinningham, K.K.**, Xu, Y., Daosukho, C., Popova, B., and St. Clair, D.K. Phorbol-12-myristate 13-acetate (TPA) enhances cytokine inducibility of the SOD2 gene. The Oxygen Society Meeting, New Orleans, LA 1999.
12. Porntadavity, S., Xu, Y., **Kinningham, K.K.**, Prachayasitikul, V., and St. Clair, D.K. TPA-induced activation of the human MnSOD promoter: Possible involvement of

transcription factors, SP-1, Egr-1, and AP-2. The Oxygen Society Meeting, San Diego, CA 2000.

13. Lin, S.M., Oberley, T.D., **Kinningham, K.K.**, and St. Clair, D.K. Exacerbation of cardiotoxicity induced by adriamycin in tumor necrosis factor receptors knockout mice. The Oxygen Society Meeting, San Diego, CA 2000.
14. Zhao, Y., Oberley, T.D., **Kinningham, K.K.**, and St. Clair, D.K. Overexpression of MnSOD suppresses tumor promotion by modulating AP-1 signaling in a multistage skin carcinogenesis model. Selected for oral presentation. The Oxygen Society Meeting, San Diego, CA 2000.
15. Zhao, Y., **Kinningham, K.K.**, and St. Clair, D.K. Overexpression of MnSOD prevents murine fibrosarcoma cell (FSa-II) apoptosis and induces a differentiation program upon treatment with 5-azacytidine. The Oxygen Society Meeting, San Diego, CA 2000.
16. Daosukho, C., **Kinningham, K.K.**, Ittarat, W. and St. Clair, D.K. The modulation of NF κ B p50/p50 dimerization is responsible for enhancement of TNF- α mediated MnSOD induction by tamoxifen. The Oxygen Society Meeting, San Diego, CA 2000.
17. **Kinningham, K.K.**, Daosukho, C., and St. Clair, D.K. I κ B- α identified as “super-suppressor” of manganese superoxide dismutase (MnSOD) expression. The Oxygen Society Meeting, San Diego, CA 2000.
18. Pornadavit, S., Xu, Y., **Kinningham, K.**, Rangnekar, V.M., Prachayasitikul, V., and St. Clair, D.K. TPA-activated transcription of the human MnSOD gene: The role of transcription factors SP-1 and Egr-1. The Oxygen Society Meeting, Research Triangle Park, N.C. 2001.
19. Cole, M.P., Oberley, T.D., Lin, S.M., **Kinningham, K.**, and St. Clair, D.K. Loss of adaptive response to oxidative stress and exacerbation of adriamycin-induced cardiac injury in inducible nitric oxide synthase homozygous knock-out mice (iNOS (-/-)). The Oxygen Society Meeting, Research Triangle Park, N.C. 2001.
20. Daosukho, C., **Kinningham, K.**, Ittarat, W., and St. Clair, D.K. Tamoxifen enhancement of TNF- α induced MnSOD expression: Modulation of NF κ B dimerization. The Oxygen Society Meeting, Research Triangle Park, N.C. 2001.
21. **Kinningham, K.K.**, Grimes, K., Flood, D., Markesbery, W., Butterfield, D.A. and St. Clair, D.K. Manganese superoxide dismutase (MnSOD) is an early target of nitration in a “double knock-in mouse model” of Alzheimer’s disease. Selected for Oral Presentation. The Oxygen Society Meeting, Research Triangle Park, N.C. 2001.
22. Cole, M.P., Oberley, T.D., Lin, S.M., **Kinningham, K.K.** and St. Clair, D.K. Inducible nitric oxide synthase knock-out mice exhibit increased oxidative stress injury in response to adriamycin-induced cardiotoxicity. Society of Toxicology, Nashville, TN 2002.
23. **Kinningham, K.K.**, Cole, M.P., Pendergrass, J.C. and St. Clair, D.K. Mitochondrial mediated apoptosis in a human neuroblastoma cell line (SK-N-SH) by thimerosal: a proapoptotic role for nuclear factor kappa binding protein (NF κ B). Society of Toxicology, Nashville, TN 2002.
24. Cole, M.P., Lin, S.M., Chaiswing, L., **Kinningham, K.K.**, Oberley, T.D. and St. Clair, D.K. Intricate relationship between nitric oxide (NO) and superoxide dismutases (SOD) in the protection against adriamycin (ADR)-induced cardiotoxicity. Oxygen Society, San Antonio, TX 2002.
25. Daosukho, C., **Kinningham, K.**, Lin, S.M., Ittarat, W., and St. Clair, D.K. Regulation of MnSOD by Tamoxifen and TNF- α in fibroblasts and cardiomyocytes. Oxygen Society, San Antonio, TX 2002

26. Robertson, E.E., **Kiningham, K.K.**, and Rankin, G.O. HK-2 cells as a human model of renal organic anion transport. Experimental Biology, San Diego, CA 2003.
27. Dillon, J.L., Spence, J.B., **Kiningham, K.K.** and Moore, M.R. Progesterone inhibition of breast cancer cell death. Joan C. Edwards School of Medicine 16th Annual Research Day. 2003.
28. Harmon, R.C., Valentovic, M.A. and **Kiningham, K.K.** Role of pyruvate in protection from renal toxicity of p-aminophenol (PAP) in Fischer 344 (F344) rats. Joan C. Edwards School of Medicine 16th Annual Research Day, 2003.
29. **Kiningham, K.**, Davis, J., Stewart, J., Cook, C., Dhar, S., and Cole, M. All-trans retinoic acid (ATRA) mediated differentiation of neuroblastoma: potential role of manganese superoxide dismutase (MnSOD). Society for Free Radicals in Biology and Medicine, Seattle, WA 2003
30. Velez, J., **Kiningham, K.**, Zhao, Y., Oberley, T., and St. Clair, D.K. Taxol induces MnSOD interaction with p53 in the mitochondria. Society for Free Radicals in Biology and Medicine, Seattle, WA 2003
31. Cole, M., Chaiswing, L., Oberley, T., **Kiningham, K.** and St. Clair, D.K. Reactive oxygen species generated by adriamycin (ADR) play a central role in the distribution of transcription factors between nuclear and mitochondrial compartments. Selected for oral presentation. Society for Free Radicals in Biology and Medicine, Seattle, WA 2003
32. Daosukho, C., Lin, S.M., **Kiningham, K.** and St. Clair, D.K. MnSOD expression protects against adriamycin induced cardiac injury. Society for Free Radicals in Biology and Medicine, Seattle, WA 2003
33. Humphrey, M.L., Huang, Y., Niles, R.M. and **Kiningham, K.K.** Thimerosal induces apoptosis in a neuroblastoma model: Potential role of AP-1 transcription factor. Joan C. Edwards School of Medicine 17th Annual Research Day, 2004. Selected for oral presentation.
34. Marcelo, A., Cook, C., Humphrey, M., and **Kiningham, K.K.** All-trans retinoic acid (ATRA) protects against cisplatin-mediated apoptosis. Sigma Xi Research Day, Marshall University 2004.
35. Muthuswamy, A., Tangpong, J., **Kiningham, K.**, Flood, D., Markesbery, W.R., and St. Clair, D.K. Beta-amyloid mediated nitration of MnSOD: Implication for oxidative stress in a double knock-in mouse model of Alzheimer's Disease., OVSOT, University of Kentucky, 2004.
36. Velez, J., **Kiningham, K.**, Zhao, Y., Oberley, T., and St. Clair, D. Interaction between MnSOD and p53 reveals a mitochondrial-mediated mechanism of taxol-induced peripheral neuropathy. Society for Free Radicals in Biology and Medicine, St. Thomas, Virgin Islands, 2004.
37. Cole, M., Chaiswing, L., Oberley, T., **Kiningham, K.**, and St. Clair, D. Overexpression of MnSOD suppresses p53-mediated ADR-induced cardiac injury in mice lacking iNOS. Society for Free Radicals in Biology and Medicine, St. Thomas, Virgin Islands, 2004.
38. **Kiningham, K.K.** and Cook, C. Reactive oxygen species as potential signal mediators in all-trans retinoic acid mediated differentiation of neuroblastoma. AACR, Anaheim, CA, 2005.
39. Humphrey, M.L., Huang, Y., Niles, R.M. and **Kiningham, K.K.** Thimerosal-induced activation of the JNK/AP-1 signaling cascade: a potential pathway to neuronal apoptosis. Joan C. Edwards School of Medicine 18th Annual Research Day, 2005. MUSOM.
40. Marcelo, A., Humphrey, M., Cook, C., Stewart, J.C. and **Kiningham, K.K.** Antioxidants block thimerosal-induced stress response and attenuate cellular

damage in a human neuroblastoma cell line (SK-N-SH). Joan C. Edwards School of Medicine 18th Annual Research Day, 2005. **Recipient of “Best Oral Presentation” award.**

41. Holley, A.K., **Kinningham, K.K.**, and Moore, M. Progesterin stimulation of manganese superoxide dismutase in T47D human breast cancer cells. Joan C. Edwards School of Medicine 18th Annual Research Day. 2005; **Recipient of “Best Poster” award.**
42. Terneus, M., **Kinningham, K.**, and Valentovic, M. The effect of S-adenosyl-L-methionine (SAME) on mitochondrial glutathione and protein carbonyls following acetaminophen (APAP) treatment in mice. Joan C. Edwards School of Medicine 18th Annual Research Day. 2005. **Chosen for oral presentation.**
43. Davis, T., Cook, C., Humphrey, M., Marcelo, A., Tassone, M., **Kinningham, K.** and Spitz, D. Upregulation of manganese superoxide dismutase protein and activity by all-trans retinoic acid (ATRA): potential roles of NFκB and retinoic acid receptors. WV-INBRE Research Day, 2005.
44. Herdman, M. and **Kinningham, K.** Thimerosal-induced activation of redox-sensitive JUN N-terminal kinase (JNK) and activator protein-1 (AP-1) Transcription factors in a neuroblastoma cell line. **Chosen for Oral Presentation**, Free Radicals in Biology and Medicine, 2005.
45. Muthuswamy, A., Tangpong, J., Keller, J.N., Markesbery, W.R., **Kinningham, K.K.**, Murphy, M.P., Flood, G.D. and St. Clair, D.K. Beta-amyloid mediated nitration of MnSOD: implication for oxidative stress in an APP NLh/NLh x PS-1P264/PS-1P264L double knock-in mouse model of Alzheimer’s disease. Free Radicals in Biology and Medicine, 2005.
46. Marcelo, A., Herdman, M., Cook, C., **Kinningham, K.** N-acetylcysteine (NAC) and trolox attenuate thimerosal-induced oxidative stress and apoptosis. Joan C. Edwards School of Medicine 19th Annual Research Day, 2006. **Recipient of “Best Poster Presentation” award.**
47. Herdman, M.L. and **Kinningham, K.** Thimerosal-induced apoptosis occurs in a cJUN N-terminal kinase (JNK)-dependent manner in a human neuroblastoma cell line (SK-N-SK). Joan C. Edwards School of Medicine 19th Annual Research Day, 2006. **Recipient of “Best Oral Presentation” award.**
48. Holley, A.K., **Kinningham, K.K.**, Spitz, D.R., Edwards, D.P. and Moore, M.R. Progesterin stimulation of manganese superoxide dismutase in T47D human breast cancer cells. Endocrine Society, Boston, MA 2006.
49. Terneus, M., **Kinningham, K.K.**, Valentovic, M. and Prince, A. Comparison of S-Adenosyl-L-Methionine (SAME) and N-Acetylcysteine (NAC) Effect on Acetaminophen Mediated Induction of Toxicity in Mice. Joan C. Edwards School of Medicine 19th Annual Research Day, 2006.
50. **Kinningham, K.**, Spitz, D., Cook, C., and Marcelo, A. Upregulation of Manganese Superoxide Dismutase mRNA, Protein and Activity by All-Trans Retinoic Acid (ATRA): Potential Roles of NFκB and the Retinoic Acid Receptor-α. Free Radicals in Biology and Medicine, 2006.
51. Asbury, M.L., Tassone, M.I., Marcelo, A.J., Cook, C.R. and **Kinningham, K.K.** Acute Dopamine Stimulation in SK-N-MC Neuroepithelioma Cells Causes Activation of the Redox-Sensitive AP-1 Transcription Factor, Oxidative Stress and Apoptosis. Free Radicals in Biology and Medicine, 2006. **Chosen for Oral Presentation.**
52. Cardozo, Z.A., Silvis, A., and **Kinningham, K.** All-trans retinoic acid (ATRA) induces resistance to cisplatin (CDDP) in the SK-N-SH neuroblastoma cell line: a potential mechanism through modulation of Bcl_{XL} and Bax. Joan C. Edwards School of Medicine 82nd Meeting of the West Virginia Academy of Sciences. **Recipient of “Best Poster” award.**

53. Asbury, M.L., Tassone, M.I. and **Kinningham, K.K.** Acute dopamine stimulation of human neuroepithelioma cells causes activation of the AP-1 transcription factor, oxidative and nitrosative stress and apoptosis: A mechanistic model for methamphetamine-induced neurotoxicity. Joan C. Edwards School of Medicine 20th Annual Research Day, 2007.
54. Asbury, M.L., Tassone, M.I. and **Kinningham, K.K.** Dopamine stimulated neuroepithelioma cells results in iNOS upregulation, oxidative stress, and apoptosis: A novel model for studying methamphetamine-induced neurotoxicity. 82nd Meeting of the West Virginia Academy of Sciences. Recipient of "**Best Oral Presentation**" award.
54. Hunter, V.E., Silvis, A., Marcelo, A. and **Kinningham, K.K.** N-acetyl-L-cysteine (NAC) enhances all-trans retinoic acid (ATRA)-mediated differentiation through modulation of retinoid receptor transcriptional activity. **Chosen for Oral Presentation.** WV-INBRE Research Day 2007.
55. Asbury, M.L., Tassone, M.I. and **Kinningham, K.K.** Heme oxygenase-1 (HO-1) Induction: a p38-Mediated, Redox Sensitive, Cellular Response to Acute Dopamine Stimulation in an in vitro Model of Addiction. Submitted to the Society for Free Radicals in Biology and Medicine, 2007.
56. Cardozo, Z.A. and **Kinningham, K.K.** Acute All-Trans Retinoic Acid (ATRA) Pretreatment Induces Resistance to Cisplatin (CDDP) in the SK-N-SH Cell Line In Part Through NFκB Dependent Modulation of Intrinsic Apoptosis. Submitted to the Society for Free Radicals in Biology and Medicine, 2007.
57. Silvis, A.M., Hunter, V. and **Kinningham, K.K.** N-acetyl-L-cysteine enhances all-*trans* retinoic acid mediated differentiation of SK-N-SH neuroblastoma cells. **Chosen for oral presentation.** Joan C. Edwards School of Medicine 21st Annual Research Day, 2008.
58. Holley, A.K., **Kinningham, K.K.**, Spitz, D.R., Edwards, D.P., Jenkins, J.T. and Moore, M.R. Progesterin stimulation of manganese superoxide dismutase and invasive properties in T47D human breast cancer cells. Submitted to The Endocrine Society's 91st Annual Meeting, 2009.

Funding:

Previous: Manganese Superoxide Dismutase Mediated Retinoid Differentiation of Neuroblastoma

Research Challenge Grant

Source: State of West Virginia/Marshall University

Principal Investigator: Kinsley K. Kinningham, Ph.D.

Percent Effort: 20%

\$20,000; 2/1/03-1/31/04

Type of Award: Internal Pilot Project Grant

Mechanism of Thimerosal Induced Neurotoxicity (1R15ES012209-01)

Principal Investigator: Kinsley K. Kinningham, Ph.D. (20% effort)

Type of Award: Academic Research Enhancement Award (R15) \$100,000

Funding: 4/1/03-4/1/06

Nutritional Intervention Model of Nitric Oxide for Cardioprotection with Chemotherapeutic Drugs

\$20,000 Awarded 12/04-12/06

Principal Investigator: Kinsley K. Kinningham, Ph.D.

Percent Effort: 10%

Type of Award: Research Challenge Award, West Virginia

Retinoids, NF κ B, and Manganese Superoxide Dismutase (MnSOD) in Neuroblastoma

Principal Investigator: Kinsley K. Kinningham, Ph.D.

Percent Effort: 50%

\$680,157; 7/1/04-6/30/09

Type of Award: Centers of Biomedical Research Excellence (COBRE)

