

Curriculum Vitae

NAME: Bruce Alexander Merrick

ADDRESS: National Institute of Environmental Health Sciences
Division of the National Toxicology Program
Biomolecular Screening Branch
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Research Triangle Park, NC 27709

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PLACE OF BIRTH: USA, U.S. Citizen

EDUCATION: Ph.D. Toxicology, 1984
University of Nebraska Medical Center, Omaha, NE
M.S. Pharmacology, 1980
University of Nebraska Medical Center, Omaha, NE
B.S. Pharmacy, 1978
College of Pharmacy, University of New Mexico,
Albuquerque, NM
B.S. Biology, 1974
University of California, Davis, CA

EXPERIENCE:

National Institute of Environmental Health Sciences
Division of National Toxicology Program
P.O. Box 12233, Mail Drop: K2-17
Research Triangle Park, NC 27709

2015 – present: Deputy Director, Biomolecular Screening Branch and Group Leader, Molecular Toxicology and Genomics Group, Division, National Toxicology Program, NIEHS.

2011 – 2014: Group Leader; Molecular Toxicology and Informatics Group, National Toxicology Program, NIEHS

2010 – 2011: Molecular Toxicologist, Biomolecular Screening Branch, National Toxicology Program, NIEHS

National Toxicology Program and Division of Intramural Research
P.O. Box 12233
Research Triangle Park, NC 27709

2006 – 2010: Staff Scientist, Laboratory of Respiratory Biology, NIEHS

2000 – 2006: Proteomics Group Leader, National Center for Toxicogenomics program, NTP/NIEHS

1992 – 1999: Staff Scientist in Regulatory Proteins Group, NIEHS;

1989 – 1992: Staff Scientist, Carcinogenesis Mechanisms Group, NTP/NIEHS

United States Environmental Protection Agency
Health Effects Research Laboratory
26 W. Martin Luther King Drive
Cincinnati, OH 45268

1987 – 1988: Section Chief, Hepatotoxicology Section, Supervisory Pharmacologist
1985 – 1987: Group Leader, In Vitro Toxicology Group

Oak Ridge National Laboratory
Biology Division
P.O. Box 2008
Oak Ridge, TN 37831

1984 – 1985; NCI Training Grant Fellow at Biology Division, Oak Ridge National Laboratory, Oak Ridge, TN. Chemical carcinogenesis of PAH. James K. Selkirk, PhD, Principal Investigator

PATENTS:

U.S. Patent No. 5534121 Awarded July 9, 1996
Title: Preparative Two Dimensional Gel Electrophoresis System
Inventor: B. Alex Merrick, Ph.D.

PRODUCT LICENSE:

Anti-Grp75 antibodies and standards; licensed to Oxford Biomedical Research, Inc., PO Box 522, Oxford, MI 48371, Catalog 6, 36.

Baculovirus Expression System, rH-p53 to Orbigen, Inc. San Diego, CA.

PROFESSIONAL LICENSE:

Registered Pharmacist, State of Nebraska and State of North Carolina

PROJECT OFFICER:

NIEHS, Division of the National Toxicology Program; In Progress
Project Officer: Contract to be awarded in 2016
Bioinformatics Support for NIEHS in the DIR and the DNTP

NIEHS, Division of the National Toxicology Program; 2015-2020
Project Officer: Contract No. HHSN2732015000051
NextGen Sequencing and Omics Services - Station Support Contract for NTP with LabCorp, Inc., Seattle, WA

NIEHS, Division of the National Toxicology Program; 2011-2015
Project Officer: Contract No. HHSN27310
NextGen Sequencing Station Support Contract for NTP with David H. Murdock Research Institute (DHMRI), Kannapolis, NC.

NIEHS, National Center for Toxicogenomics; 2002-2005
Project Officer: Contract No. NIEHS N01-ES25494
“Proteomics Resource for the National Center for Toxicogenomics” with Large Scale Biology, Germantown, MD

U.S. Environmental Protection Agency, 1985-1988
Project Officer: “Chemical Interactions in Toxicology”; Cooperative Agreements with University of Arizona and University of Mississippi

TEACHING EXPERIENCE:

2001 to present: NC State University Toxicology Program; Biochemical Toxicology lecture series.
1978 to 1980: Teaching Assistant: Pharmaceutics I, II; Pharmacy and Dispensing and Compounding. UNMC College of Pharmacy

ADJUNCT FACULTY POSITION:

Associate Professor at North Carolina State University
Department of Environmental and Molecular Toxicology
Adjunct Faculty Appointment: 2001 to present

MENTORING:

Post-doctoral Fellows:

Jui-Hua Hsieh, Ph.D. University North Carolina, Chapel Hill, Chemical Biology and Medicinal Chemistry; 2011-2015

Charlesene McNeil-Blue, Ph.D., Clark Atlanta University, Atlanta, GA, Dept. of Biology
2003-2006; Project Title: Role of p53 in apoptosis in Parkinson's disease and neurodegenerative disorders

Barbara A. Wetmore, Ph.D.

2000-2005; NC State University, Raleigh, NC Dept of Environmental and Molecular Toxicology
Project Title: P53 phosphorylation in Growth Arrest and Apoptosis
Employed as Senior Scientist at Hamner Research Institute, RTP, NC

PhD:

Christopher Brynczka, NC State University, Raleigh, NC Dept. of Environmental and Molecular Toxicology; 2003-2007; PhD Awarded, April 2007
Project Title: p53 transcriptional regulation in apoptosis of neurodegenerative disease
Employed as Senior Toxicologist at Merck & Co.

STEP Undergraduate Student Trainees:

Kevin Gao, 2014

Justin S. Chang, 2013

Lora Long Witcher, 1990-1993

Miki Pence-Pawlowski 1993-1995

Vicky R. Walker 1995-1996

Jennifer Hartis 1999-2001

Ph.D. Committee Member:

NC State University; Department of Environmental and Molecular Toxicology

Minsub Shim; 2003, Ph.D. Degree

Elizabeth McKenzie, Ph.D. Committee; 2002 to 2005

Sherry Grissom, M.S. Committee; 2004

Jennifer H. Madenspacher, M.S. Committee; 2005

PROFESSIONAL SOCIETIES:

Society of Toxicology, Full Member, 1984 to present

Stem Cell Specialty Section, 2011 to present

American Association of Cancer Research, Full Member 1990 to 2007

Society for Neuroscience, 2002 to 2007

EDITORIAL BOARD:

Journal of Applied Pharmacology 2012 to present

Environmental Health Perspectives 2004 to current

Mutation Research Reviews, 2004 to present

Briefings in Functional Genomics and Proteomics 2003 to 2009
BioMolecular Engineering 2004 to 2006
Reviews in Mutation Research 2001 to current
Fundamental and Applied Toxicology 1990 to 1996

AD HOC JOURNAL REVIEWER:

Biochemical Pharmacology
Biochimie
BioTechniques
Cancer Research
Electrophoresis
FASEB Journal
In Vitro Toxicology
Journal of Pharmacology and Experimental Therapeutics
Journal of Proteomics Research
Molecular Pharmacology
Oncogene
Proteomics
Toxicology In Vitro
Toxicological Sciences
Toxicology and Applied Pharmacology

INVITED SPEAKER:

Sixth Multidisciplinary Science Forum (MSF) at UC Davis Medical Center
Seminar Title: "Tox21: A Strategy for Toxicology in the 21st Century"
Organizing Chair: Melissa C. Chan, PhD
November 6, 2015; Sacramento, CA

American Public Health Association Annual Meeting; Session 4122: Why Neighborhood Matters in Assessing Environmental Health Risks.
Seminar Title: "NIEHS Mouse Methylome Project: What We Can Learn from the Epigenomic Landscape".
Organizing Chair: Kenneth Olden, Ph.D.
November 18, 2014; New Orleans, LA

Toxicogenomics Workshop: the emergence of a new research and regulatory paradigm.
Seminar Title: "Intersection of Toxicogenomics and High Throughput Screening in the Tox21 Program: An NIEHS Perspective"
Organizing Chair: Victor Pelaez, Ph.D.
September 15-16, 2014; Curitiba, Brazil

NC Biotechnology Center Seminar Series
Seminar Title: Mapping the Rat Liver Transcriptome by RNASeq: Chemical Exposure Reveals Novel Transcripts and Exons"
Sponsor: Xinguo Wang, Ph.D., Genomic Sciences, David H. Murdock Research Institute
February 6, 2014; Kannapolis, NC

Ohio Valley Regional SOT Chapter Meeting, Invited Keynote Speaker
Seminar Title: "High throughput screening for chemical toxicity assessment"
Organizing Chair: Christopher States, PhD
September 23, 2013; Louisville, KY

Experimental Biology 2008 Meeting, ASPET/FASEB sponsor; Invited Speaker to Symposium on Inflammation: Early Disease Marker, Drug Response Modifier, Therapeutic Target
Chair(s): Donald Miller/Daniel Sitar

Seminar Title: "Omics-based discovery of inflammation markers as diagnostic tools in drug discovery and disease"
April 5-9, 2008; San Diego CA

HUPO 2007, 6th International Congress; Invited Speaker and Session Chair of Symposium 19:
Nutri- and Toxicoproteomics
Seminar Title: "Toxicoproteomics and target discovery tools in tissue injury and inflammation"
Seoul, South Korea; October 6-10, 2007

Collegium Ramazzini: 3rd International Scientific Conference: Framing the Future in Light of the Past:
Living in a Chemical World
Seminar Title: "Gene and Protein Protein Profiling in Experimental Liver Injury and Inflammation"
September 18-21, 2005, Bologna, Italy

9th ICEM –International Conference on Environmental Mutagens - Satellite Meeting on
Toxicogenomics
Seminar Title: "Toxicoproteomic Biomarkers and Signatures of Hepatic Injury"
August 30-September 2, 2005, Kauai, Hawaii

West Virginia University Systems Biology Initiative and CIIT Centers for Health Research:
"2005 Conference on: The Application of Systems Biology Methodologies to Environmental Research"
Seminar Title: "Effect of TCDD on the rat microsomal proteome"
Seminar Title: "Building toxicogenomics knowledge with the chemical effect in biological systems (CEBS) knowledgebase"
August 1-3, 2005; West Virginia University

American Association for the Study of Liver Diseases (AASLD) 2005 Basic Research Single
Topic Conference: "Exploring the Functional Genomics and Proteomics of Liver in Health and
Diseases"
Seminar Title: "Proteomic Profiling of Serum and Liver in Experimental Animals and Humans
After Acetaminophen Exposure"
June 3-5, 2005; Airlie Center, Warrenton, VA

SOT 2005 Annual Meeting
Minisymposium: "Proteomics and Antibody Microarrays: Applications in Toxicology". Seminar
Title: "Proteomic analysis of serum proteins during acute acetaminophen toxicity in rats
reveals acute phase and antioxidant response"
March 6-10, 2005; New Orleans, LA

University of Florida, Gainesville
Invited Seminar sponsored by the Genetics Institute and Interdisciplinary Toxicology Program. Host:
Nancy Denslow
Seminar Title: "Toxicoproteomic profiling of serum proteins in animals and humans after
acetaminophen exposure"
February 1, 2005

Society for Risk Analysis 2004 Annual Meeting
Symposium: Recent Developments in Risk Assessment Science and Technology, Chaired by Susan
Poulter, Risk Science and Law Specialty Group
Seminar Title: "The impact of toxicogenomics on public policy, risk assessment and regulation"
December 5-8, 2004; Palm Springs, CA

Merck Distinguished Research Seminar
Merck Research Center,
Host: George N. Nikov, Ph.D.
Seminar Title: p53 in growth regulation and apoptosis.

October 12-13, 2004; San Diego, CA

“Toxicogenomics International Forum 2004” sponsored by Center for Biological Safety and Research
National Institute of Health Science, Japan

Seminar Title: “Toxicoproteomics of Liver Injury and Inflammation”

October 11-13, 2004; Kyoto, Japan

SELDI User’s Group Meeting at Duke University

Seminar Title: “Use of SELDI Analysis in Classifying Acute Inflammation in Experimental Animals as a
Prelude to Clinical Studies”

October 7, 2004, Duke University, Durham, NC

ISSX 2004 Symposium, Organizer and Speaker

Symposium Title: “High Throughput Proteomics in Xenobiotic Toxicity”

Seminar Title: “Toxicoproteomic analysis of hepatotoxicants in necrosis and inflammation”

August 28-Sept 2, 2004; Vancouver, BC, Canada

10th International Congress of Toxicology – ICTX 2004

Session S15: “Toxicogenomics and Proteomics of the Liver” Session Co-Chairman and Speaker. Co-
Chair: Jos Kleinjans, The Netherlands National Toxicogenomics Centre (NTC)

Seminar Title: “Gene and protein expression profiling of rat liver and subcellular fractions after
subacute exposure to metabolic inducers, phenobarbital, oxazepam and Wyeth 14,643”

July 11-15, 2004; Tampere, Finland

University of Arizona, Department of Pharmacology and Toxicology and Chemical/Chromatin
Interactions Research Core. Hosts: TJ Monks and D Rompagnolo

Seminar Title: “Toxicoproteomic Studies in Hepatic Injury and Inflammation”

April 27, 2004; Tucson, AZ

U.S. – Japan Cooperative Medical Science Program:

Environmental Genomics and Carcinogenesis Panel

Session I. Gene Expression, Proteins, Chemicals and Cancer

Seminar Title: “Toxicoproteomic Analysis of Liver and Serum during Hepatotoxicity”

January 22 – January 24, 2004; Oahu, Hawaii

American Industrial Hygiene Association, Annual Meeting

Roundtable: “New Venues for industrial hygienists: Using Biological Monitoring to Uncover the Health
Impact of Environmental Toxicants”

Seminar Title: “Toxicoproteomic Analysis of Liver Toxicity after Chemical Exposure”

May 11, 2004; Atlanta, GA

Pacific Northwest National Laboratory (PNNL)

Seminar Title: “Toxicoproteomics of liver and serum in hepatotoxicity”

February 19-21, 2004; Richland, WA

“IPCS Workshop on Toxicogenomics and the Risk Assessment of Chemicals For the
Protection of Human Health” sponsored by WHO-IPCS (World Health Organization -

International Programme on Chemical Safety

University of Berlin School of Public Health

Seminar Title: “The National Center for Toxicogenomics: Program Update and Development of the
CEBS Database for Toxicogenomics Research”

November 17-19, 2003; Berlin, Germany

Federazione Italiana Scienze della Vita Meeting, Invited speaker to Minisymposium “Gene-
environment interactions”

Seminar Title: “Toxicogenomics of Hepatotoxicity: Gene and Protein Expression Studies”

October 10-13, 2003, Rimini, Italy

Toxicology of Natural Products Symposium, sponsored by US FDA

Seminar Title: "Toxicoproteomics of Hepatotoxicants"

September, 8-9, 2003; NIH Bethesda, MD

Gordon Conference: "Toxicogenomics" Bates College, ME,

Seminar Title: "Proteomic Analysis of Hepatotoxic Agents: Investigation of Subcellular and Serum Proteomes"

June 22-27, 2003; Lewiston, ME

Human Proteome Organization (HUPO) Workshop on the Human Liver Proteome

Seminar Title: "Standards and Technologies in Proteomics"

July 17-18, 2003; NIH Bethesda, MD

Society of Toxicology Symposium: Invited speaker

Seminar Title: "Conducting Parallel Genomics and Proteomics Studies: Comparative Responses in Gene Expression." at the 42nd Annual Meeting of the

March 9-13, 2003; SOT, Nashville, TN

Society of Toxicology Workshop: Organizer

Course Title: "Toxicity Profiling of Genes and Proteins by Toxicologists: Advanced Topic in Toxicogenomics" PM12 Advanced.

March 17-21, 2002 Nashville, TN at SOT Annual meeting

Human Proteome Organization (HUPO) Workshop on the Human Liver Proteome

Seminar Title: "Liver Response to Environmental Toxicants Analyzed by Proteomics at NIEHS"

October 21-24, 2002, Beijing, China

UNC Chapel Hill Department of Biochemistry Seminar Series:

Seminar Title: "Proteomics as a Tool for Discovery: Metabolic Enzyme Inducers and Subcellular Localization"

Host: C Borchers

October 9, 2001, UNC Chapel Hill, NC

American Association Advancement of Science, 2001 Meeting

Symposium: Approaches in Functional Genomics: Rewards and Challenges. Organizer: Francoise Seillier-Moiseiwitsch, UNC, Chapel Hill, NC

Seminar Title: Proteomic Analysis as a Tool for Pathway Discovery.

March 15-20, 2001; San Francisco, CA

International Society for Study of Xenobiotics Annual Meeting, ISSX 2000; Symposium:

Pharmacodynamics and Biomarkers. Organizer: JM Collins, FDA; Rockville, MD

Seminar Title: "National Center for Toxicogenomics: A New NIEHS Initiative for Toxicology and Biomarker Research"

October 24-28, 2000; Indianapolis, IN

U.S. EPA, NHEERL, Research Triangle Park, NC

Seminar Title: "Proteomics at NIEHS: Hepatic Effects of TCDD as a Pilot Study"

Host: K. Dreher, Experimental Toxicology Division

September 28, 2000; Research Triangle Park, NC

U.S. EPA, NHEERL, Research Triangle Park, NC

Seminar Title: "Proteomics in a Gene Expression Center: Applications to Environmental Toxicology"

Host: D. Dix, Reproductive Toxicology Division

February 24, 2000, Research Triangle Park, NC

Professional Program Activities:

NTP, Board of Scientific Councilors: Contract Concept Review – Bioinformatics Contract for DNTP and DIR,
December 2, 2015

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel.
November 12, 2014

SBIR – NTP Liaison to DERT – SBIR on Archived Tissues,
2013 to present

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel.
November 13, 2012

Reviewer: NIH Microphysiological Systems Grant Review Panel ZRG1 BST-N (50),
April 19-20, 2012; Bethesda, Maryland

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel.
November 2, 2011

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel.
November 3, 2010

Reviewer: Proteomics Program in Molecular Profiling; Pfizer Pharmaceutical Company, Ann Arbor, MI;
September 24-25, 2006.

Reviewer for: NIH National Cancer Institute Grant Study Section: NCI RFA-CA-07-012 "Clinical Proteomic Technology Assessment for Cancer." Silver Springs, MD;
July 19-20, 2006

Reviewer for: Pacific Northwest National Laboratories Proposals
PNNL LDRD Proposal Title: "Signatures of Oxidative Stress Associated with Inhaled Particulate Matter" Contact: Flor Cuevas, PNNL, Richmond, OR; September 2005.

Reviewer for: Genome Canada Competition III; External Reviewer of Large Scale Project
Project Title: "Proteomics of Hepatitis C Models" by J Bergeron and M Tremblay; JoAnn J. Crichlow
April 15, 2005

Reviewer for: The Dutch Technology STW Foundation; the Netherlands Organisation for Scientific Research, NWO, and the Dutch Ministry of Economic Affairs
Project Title: "WPB.6718: Cell-type specific proteomics; a general strategy for high throughput protein discovery" by Dr. A.R. van der Krol; Wageningen, Netherlands;
November 2004

Reviewer for: Pennsylvania Department of Health Performance Reviews of Genomics and Proteomics Initiatives
April 23, 2004

"The Human Proteome Roadmap" HUPO Workshop; participant
Sponsored by NIH, FDA and HUPO
April 22, 2004; Bethesda, MD

USEPA Science Advisory Board
"Consultation on Computational Toxicology Framework (CTF)"
US EPA; Wash DC; Consultant
Washington, DC;
September 5, 2003

Reviewer for: European Science Foundation: Exploratory Workshop
Workshop Title: "Microarray and Proteomic application to the Ecotoxicology" Contact: Jane Swift; Life and Environmental Sciences Unit, ESF 1 quai Lezoy-Marnesia 67080 Strasbourg cedex France;
September 2003

Reviewer for: Pacific Northwest National Laboratories Proposals
PNNL LDRD Proposal Title: "Array Technologies for Quantification of Proteins" by R Zangar,
Contact: Marla J. Sequin, PNNL, Richmond, OR;
August 2003

HUPO, Human Proteome Organization
Human Liver Proteome Project (HLPP) Workshop; Plan and participate in international Liver Proteomics studies and initiatives
Workshop Meeting at NIH, Bethesda, MD;
July 17-18, 2003

ILSI-HESI (International Life Sciences Institute – Health Environmental Science Institute)
Member of Biomarkers and Proteomics Leadership Subcommittee; Participate in planning for national cooperative studies on Biomarkers and Proteomics in Toxicology Washington, DC;
2001 to 2003

HUPO, Human Proteome Organization
Cell Models Subcommittee: Human Liver Proteome Leadership Group. Plan and participate in international Liver Proteomics studies and initiatives
Seminar: "Toxicogenomic studies of liver toxicants"
Workshop Meeting in Beijing, China;
November 21-24, 2002

HUPO, Human Proteome Organization
Plasma Proteome Group; Plan and participate in international studies and initiatives on the Plasma Proteome.
Workshop Meeting, Ann Arbor, MI;
September 5-6, 2002

SOT 2002, Annual Meeting Course Organizer for SOT Continuing Education Series: CE Course
Title: PM#12: "Toxicity Profiling of Genes and Proteins by Toxicologists: Advanced Topics in Toxicogenomics"
Nashville, TN;
March 17-21, 2002

TECHNICAL REPORT:

TR 589: Toxicology Studies of a Pentabromodiphenyl Oxide Mixture (DE-71) in F344/N Rats and B6C3F1/N Mice and Toxicology and Carcinogenesis Studies of a Pentabromodiphenyl Oxide Mixture (DE-71) in Wistar Han [CrI:WI(Han)] Rats and B6C3F1/N Mice. Appendix M. Study on the relationship of the AhR to DE-71 liver tumor formation in Wistar Han Rats. BA Merrick, JK Dunnick, T Maynor, AE Brix, GE Kissling and MJ Devito. ppM1-M6, 2015.

NIEHS COMMITTEES:

NTP Toxicogenomics Faculty Chair 2011 - present
 Digital Assets Inventory (DAI) Committee – 2015 to 2016
 Information Technology Management Committee (ITMC), 2013-2016
 DNTP Information Technology Resources Advisory Committee (ITRAC), 2013-2016
 NIEHS Epigenomics and NextGen Review Committee, 2013 - present
 NIEHS Commercial Software Evaluation Committee, 2016
 NIEHS Computer Life Cycle Committee, 2016
 Committee on Promotion Board II, 2012-2015
 Science Day Organizing Committee, 2011-2015
 EIR Invention Review Panel: 2010 - present
 Pulse Survey Point of Contact for BSB Branch and NTP, 2011-2012
 BSB Branch Journal Club Chair 2011-2015
 Assembly of Scientists: Elected Board Member, 2003-2005; 2015 - 2018
 Animal Care and Use Committee Member; 1999-2005
 MOATS: Media and Glassware Advisory Committee, Head 1996-2000, Led committee to develop MOATS automated ordering system for media and glassware
 NIEHS Property Committee; 1999-2000; helped develop PMIS automated property management system
 Chairman, Property Disposal Committee, 2004 - 2006
 NIEHS Focus Group for Health and Radiation Safety; 1995

PUBLICATIONS:

98. Grimm SA, Shimbo T, Mav D, Thomas JW, Auerbach SS, Bennett B, Bucher JR, Burkholder A, Dai S, Du Y, French JE, Li J, **Merrick BA**, Tice RR, Wang T, Xu X, NISC Comparative Sequencing Program Shah R, Bushel P, Fargo D, Mullikin JC and Wade PA. Multigenerational inheritance of DNA methylation in the mouse. *Mol Cell* (Submitted)
97. Dunnick JS, **Merrick BA**, Brix A, Morgan DL, Gerrish K, Flake G, Foley J and Shockley K. Molecular changes in the nasal cavity after N,N-Dimethyl-p-toluidine exposure. *Toxicol Pathol* (In Press, 2016).
96. **Merrick BA**, Paules RS and Tice RR. 2015. Intersection of toxicogenomics and high throughput screening in the Tox21 program: an NIEHS perspective. *Int. J. Biotechnology* 14(1):7-27.
95. Chen S, Hsieh J-H, Huang R, Sakamuru S, Hsin L.-Y, Xia M, Shockley K, Auerbach S, Kanaya N, Lu H, Svoboda D, Witt KL, **Merrick BA**, Tice RR and Teng CT. 2015. Cell-based high-throughput screening for aromatase inhibitors in the Tox21 10K library. *Tox Sci* 147:446-457.
94. Pelch KE, Tokar EJ, **Merrick BA**, and Waalkes MP. 2015. Differential DNA methylation profile of key genes in malignant prostate epithelial cells transformed by inorganic arsenic or cadmium. *Toxicol Appl Pharmacol* 286:159-167.
93. Morgan D, **Merrick BA**, Gerrish KE, Stockton PS, Foley JF, Wang Y, Gwinn WM, Kelly FF, Palmer SM, Ton T-V T, Hoenerhoff JJ and Flake GP. 2015. Gene expression of obliterative bronchiolitis-like lesions in 2,3-pentanedione-exposed rats. *PLOS ONE*, 10(2):e0118459.

92. Auerbach SS, Phadke D, Mav D, Gao Y, Xie B, Shin JH, Shah RR, **Merrick BA**, Tice RR. 2015. RNA-Seq-based Toxicogenomic Assessment of Fresh Frozen and Formalin Fixed Tissues Yields Similar Mechanistic Insights. *J Appl Toxicol*, 35:766-780.
91. Teng CT, Beames B, **Merrick BA**, Martin N, Romeo C and Jetten AM. 2014. Development of a stable cell line with an intact PGC1a/ERRa axis for screening environmental chemicals. *Biochem Biophys Res Comm* 444:177-181.
90. McPherson CA, **Merrick BA** and Harry GJ. 2014. Enhanced evaluation of *in vivo* molecular markers for pro-inflammatory cytokine M1 stage of trimethyltin-induced hippocampal injury. *Neurotoxicity Research*, 25:45-56.
89. Madenspacher JH, Azzam KM, Gowdy KM, Malcolm KC, Nick JA, Dixon D, Aloor JJ, Draper DW, Guardiola JJ, Shatz M, Menendez D, Lowe J, Lu J, Bushel P, Li L, **Merrick BA**, Resnick MA and Fessler MB. 2013. p53 integrates host defense and cell fate during bacterial pneumonia. *J. Exptl Med* 210:891-904.
88. Teng C, Goodwin B, Shockley K, Xia M, Huang R., Norris J, **Merrick BA**, Jetten AM, Austin CP and Tice RR. 2013. Bisphenol A affects androgen receptor function via multiple mechanisms. *Chem Biol Interact* 203:556-564.
87. **Merrick BA**, Phadke DP, Auerbach SS, Mav D, Stiegelmeyer, SM, Shah RR and Tice RR. 2013. RNASeq profiling reveals novel hepatic gene expression pattern in aflatoxin B1 treated rats. *PLOS ONE*: 8(4):e61768.
86. **Merrick BA**, Auerbach SS, Stockton PS, Foley JF, Malarkey DE, Sills RC, Irwin RD and Tice RR. 2012. Testing an aflatoxin B1 gene signature in rat archival tissues. *Chem Res Toxicol* 25:1132-1144.
85. **Merrick BA**, London RE, Bushel PR, Grissom SF and Paules RS. 2011. Platforms for biomarker analysis using high-throughput approaches in genomics, transcriptomics, proteomics, metabolomics and bioinformatics. *IARC Sci Publ*, 163:121-142.
84. **Merrick BA**, Dhungana S, Williams JG, Aloor JJ, Peddada S, Tomer KB and Fessler MB. 2011. Proteomic profiling of S-acylated macrophage proteins identifies a role for palmitoylation in mitochondrial targeting of phospholipid scramblase 3. *Molec Cellular Proteomics*, M110.00607-13.
83. Smoak KA, Aloor JJ, Madenspacher JH, **Merrick BA**, Collins J, Hollingsworth J, Zhu X, Cavigiolio G, Oda MN, Parks JS and Fessler MB. 2010. Myeloid differentiation primary response protein 88 couples reverse cholesterol transport to inflammation. *Cell Metabolism* 11:493-502.
82. **Merrick BA** and Witzmann FA. 2009. The role of toxicoproteomics in assessing organ specific toxicity. *EXS (Experientia Supplementum)* 99:367-400.
81. Dhungana S, **Merrick BA**, Tomer KB and Fessler MB. 2009. Quantitative proteomic analysis of macrophage rafts reveals compartmentalized activation of the proteasome and of proteasome-mediated ERK activation in response to lipopolysaccharide. *Mol Cell Proteomics* 8:201-213.
80. **Merrick BA** 2008. The plasma proteome, adductome and idiosyncratic toxicity in toxico-proteomics research. *Briefings in Functional Genomics and Proteomics* 7:35-49.
79. Lobenhofer EK, Auman JT, Blackshear PE, Boorman GA, Bushel PR, Cunningham ML, Fostel JM, Gerrish K, Heinloth AN, Irwin RD, Malarkey DE, **Merrick BA**, Sieber SO,

- Tucker CJ, Ward SM, Wilson RE, Hurban P, Tennant RW and Paules RS. 2008 Gene expression response in target organ and whole blood varies as a function of target organ injury phenotype. *Genome Biology* 9:R100.
78. Brynczka C and **Merrick BA**. 2008. The p53 transcriptional target gene *wnt7b* mediates NGF-inducible neurite outgrowth in neuronal PC12 cells. *Differentiation* 76:795-808.
77. Waters M, Stasiewicz S, **Merrick BA**, Tomer K, Bushel P, Paules R, Stegman N, Nehls G, Yost KJ, Johnson CH, Gustafson SF, Xirasagar S, Xiao N, Huang C-C, Boyer P, Chan DD, Pan Q, Gong H, Taylor J, Fostel J, Choi D, Rashid A, Ahmed A, Howle R, Selkirk J and Tennant R. 2008. CEBS: Chemical Effects in Biological Systems. A public data repository integrating study design and toxicity data with microarray and proteomics data. *Nucl Acids Res* 36:D892-900.
76. Brynczka C and **Merrick BA**. 2007. Nerve growth factor potentiates p53 DNA binding but inhibits nitric oxide-induced apoptosis in neuronal PC12 cells. *Neurochemical Research* 32:1573-1585.
75. Brynczka C, Labhart P and **Merrick BA**. 2007. NGF-mediated transcriptional targets of p53 in PC12 neuronal differentiation. *BMC Genomics* 8:139.
74. McNeill-Blue C, Wetmore BA, Sanchez JF, Freed WJ and **Merrick BA**. 2006. Apoptosis mediated by p53 in rat neural AF5 cells following treatment with hydrogen peroxide and staurosporine. *Brain Res* 1112:1-15.
73. **Merrick BA** 2006. Toxicoproteomics in liver injury. *Ann NY Acad Sci* 1076:707-717.
72. **Merrick BA**, Bruno ME, Madenspacher JH, Wetmore BA, Foley J, Pieper R, Zhao M, Makusky AJ, McGrath AM, Zhou JX, Taylor J and Tomer KB. 2006. Alterations in the Rat Serum Proteome During Liver Injury from Acetaminophen Exposure. *J Pharmacol Exptl Therap* 318:792-802.
71. Xirasagar S, Gustafson SF, Huang C-C, Pan Q, Fostel JM, Boyer P, **Merrick BA**, Tomer KB, Stasiewicz S, Chan DD, Yost KJ III, Choi D, Xiao N, Bushel PR and Waters MD. 2006. Chemical Effects in Biological Systems (CEBS) Object Model for Toxicology Data, SysTox-OM: Design, Implementation, and Application. *Bioinformatics* 22:874-882.
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