**Curriculum Vitae-Donna D. Zhang**

Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ

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**EDUCATION:**

1997 Ph.D. in Molecular Toxicology, New York University, Nelson Institute of Environmental Medicine, New York, New York.

“*Molecular Cloning and Characterization of a novel gene, Cap43, that is specifically induced by Ni2+ compounds.*”

Advisor: Dr. Max Costa

1993 M.S. in Molecular Toxicology, New York University, Nelson Institute of Environmental Medicine, New York, New York.

“*Effect of second-hand smoke in atherosclerosis.*”

Advisor: Dr. Arthur Penn

**EMPLOYMENT:**

2013-present Professor, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ

2011-2013 Associate Professor, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ

2005-2011 Assistant Professor, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ

1999-2005 Research Assistant Professor, University of Missouri-Columbia, Department of Biochemistry, Columbia, MO

1997-1999 Post-doctoral Fellow (with Dr. David B. Warheit), DuPont-Haskell Laboratory, Inhalation Toxicology, Newark, DE

**Honors and Awards:**

2013 Centennial Top 100 Alumni Achievement Hall of Fame of Ningbo 5th high School (0.1%)

2012 The Society of Toxicology Achievement Award

2006 NIH/NIEHS Outstanding New Environmental Health Scientist Award

1999 DuPont Young Investigator Award

**Patents:**

2016 Activators of Nrf2-dependent photoprotection and related uses thereof

International Application Number: PCT/US16/47390

2016 Compositions and methods for treating and preventing lung injury

International Application Number: PCT/US16/55525

**SERVICE/OUTREACH:**

**Intramural**

2016-2017 Research Affairs Committee

2016 UAHS Space Committee

2016- College Space Committee

2015- T32 Training grant executive committee

2014- Departmental P&T Committee

2009- College of Pharmacy Research Affairs Committee

2009- Member, Bio5 Institute

2006- Member, Cancer Biology Graduate Program

2006- Member, Biological Chemistry Graduate Program

2006- Member, Biomedical Engineering Graduate Interdisciplinary Program

2006- Member, Southwest Environmental Health Sciences Center

2006- Member, Cancer Prevention and Control Program, Arizona Cancer Center

2006- Mentor, Keep Engaging Youth in Science (KEYS) research program for K-12 students and high school teachers

2006-2008 Member, College of Pharmacy Computer Committee

**Extramural**

2018 President of Mechanisms Specialty Section of the Society of Toxicology

2018-2022 NIH, Systemic injury by Environmental Exposure (SIEE)-member

2018 National Research Foundation of Korea, reviewer

2018 NIH, Bioengineering Sciences and Technologies (BST), IRG

2017 NIH, Systemic injury by Environmental Exposure (SIEE)

2017 NIH, Special Emphasis Panel review for SPORE grant, Oncology Translational Clinical IRG

2017 NIH, Special Emphasis Panel review, AREA R15

2017 Medical Research Council, reviewer

2017 Editor, “Nrf2-Keap1” forum, Antioxidants & Redox Signaling

2016 NIH, Special Emphasis Panel Members (SEP), reviewer

2016 NIH, Special Emphasis Panel review, AREA R15

2016 NIH, NIEHS Outstanding New Environmental Scientist (ONES) Award

2016 Vice-president of Mechanisms Specialty Section of the Society of Toxicology

2016-- Associate Editor, Molecular Carcinogenesis

2015 Medical Research Council, reviewer

2015 NIH, NIEHS Career Award (K99)

2015 External evaluator, faculty P&T process, College of Medicine, Dentistry and Nursing, University of Dundee, Dundee

2015 External evaluator, faculty P&T process, Department of Medicinal Chemistry & Molecular Pharmacology, College of Pharmacy, Purdue University

2015 External evaluator, faculty P&T process, Department of Pharmacy Practice, College of Pharmacy, University of Illinois at Chicago

2015 External evaluator, faculty P&T process, Department of Cell Biology and Physiology in the School of Medicine at UNC-Chapel Hill

2014 NIH, the stage 2 Distinguished Editorial panel for Botanical Dietary Supplement Research Centers (BDSRC) (P50)

2014 NIH, the stage 2 Distinguished Editorial panel for Centers for Advancing Natural Products Innovation and Technology Centers (CANPIT) (U41)

2014 NIH, NIEHS Outstanding New Environmental Scientist (ONES) Award

2014 Cancer Research UK Expert Programme Review Panel

2012-2016 National Institutes of Health review committee, Chemo/Dietary Prevention Study Section (CDP/NIH)-member

2013 NIH, reviewer for the National Center for Complementary and Alternative Medicine (NCCAM/NIH)

2013- External Advisory Board Member for NIAID P01 Signaling in airway inflammation, UTMB Galveston, PI: Allan Brasier

2013- Research Funding Committee, Society of Toxicology

2012 Woman in Toxicology, Society of Toxicology

2012 External reviewer, Center in Molecular Toxicology, Vanderbilt University School of Medicine, pilot grant

2012 The Leukemia & Lymphoma Society, Medical Research Council

2011 Reviewer, King Abdulaziz City for Science and Technology, Saudi Arabia

2011 Reviewer, Association for International Cancer Research in the United Kingdom (AICR)

2011 External reviewer, faculty promotion process, Department of Pharmaceutical Sciences, University of Colorado

2011 Organizer and Chair, “New insights into the Nrf2-Keap1 pathway and its impact on human disease” symposium, Society of Toxicology annual meeting

2010-2011 President, Mountain West Regional Chapter, the Society of Toxicology

2010 Reviewer, National Science Foundation, Molecular and Cellular Biosciences Division

2010 Chair, Oxidative Injury and Redox Biology poster session, Society of Toxicology annual meeting

2010 Organizing committee and chair of “Cellular & Molecular Responses to BRIs,” Biological Reactive Intermediates International Conference VIII, Barcelona, Spain

2010 Editor, “Nrf2-Keap1” forum, Antioxidants & Redox Signaling

2009-2013 Editorial board member, Toxicology and Applied Pharmacology

2009 Reviewer, Wellcome Trust, United Kingdom

2009 NIH, National Institute of Environmental Health Sciences, special emphasis panel study section to review P01 and P20 children center grants

2009-2012 NIH, National Institutes of Health review committee, Chemo/Dietary Prevention Study Section

2009-2010 Vice-President, Mountain West Regional Chapter, Society of Toxicology

2009-2010 Organizer, Mountain West Regional Chapter, Society of Toxicology annual meeting

2009 Chair, Reactive Oxygen Species Stimulated Signaling poster session, Society of Toxicology annual meeting

2008 Reviewer, Cancer Research, United Kingdom Science Funding Committee

2008 Reviewer, Portuguese Foundation for Science and Technology, Pharmacology and Pharmaceutical Sciences’ sub-area

2008 Chair, Oxidative Signaling and Redox Biology symposium, Society of Toxicology annual meeting

2007-2011 Member, Career Resource and Development Committee, Society of Toxicology

Toxicology annual meeting

2006 Reviewer, Italian National Centre for Rare Disease at the Instituto Superiore di Sanità, Italian Public Health Institute of Rome

**TEACHING:**

**Courses**

Cell communications and signal transduction (PCOL 630B)

* Course Coordinator
* Required course for Ph.D. and M.S. degrees in Pharmacology and Toxicology
* 15 lectures each fall semester

Seminar (PCOL 696A and 696B)

* Course Coordinator
* Required course for Ph.D. and M.S. degrees in Pharmacology and Toxicology

Science of Pharmacology (PCOL 871A)

* Required course for Pharm. D., Ph.D. and M.S. degree
* 2 lectures each fall semester

Science of Pharmacology (PCOL 871B)

* Required course for Pharm. D., Ph.D. and M.S. degree
* 4 lectures each spring semester

General and Systems Toxicology (PCOL602A)

* Required course for Ph.D. and M.S. degree
* 6 lectures each fall semester

Advanced Toxicology (PCOL 596C)

* Required course for Ph.D. and M.S. degrees in Pharmacology and Toxicology
* 1 lecture each fall and spring semester

Individualized Medicine: Applied Pharmacogenetics (PHPR 887)

* Required course for Ph.D. and M.S. degree in Pharmacology and Toxicology and Pharm. D. students
* 3 lectures each spring semester

Case Study in Biochemical Pharmacology (PCOL 870/871)

* Authored “Holly Beach” case
* Required course for Pharm.D. students
* 3 case studies each fall and spring semester

**Ph.D. Graduate Committees**

Major advisor:

* Raúl Castro, Arizona Biological and Biomedical Sciences (ABBS), majoring in Pharmacology and Toxicology, 2017- (thesis advisor)
* Daniel Hernandez-Cortes, Arizona Biological and Biomedical Sciences (ABBS), majoring in Cancer Biology, 2016- (thesis advisor)
* Cody Schmidlin, Arizona Biological and Biomedical Sciences (ABBS), majoring in Cancer Biology, 2016- (thesis advisor)
* Elisa Montserrat Rojo de la Vega Guinea, Arizona Biological and Biomedical Sciences (ABBS), majoring in Cancer Biology, 2013- (thesis advisor)
* Bryan Harder, Pharmacology and Toxicology, 2013-2017 (thesis advisor)
* Tongde Wu, Pharmacology and Toxicology, 2009- 2013 (thesis advisor)
* Alexandra G. Lau, Pharmacology and Toxicology, 2007-2012 (thesis advisor)
* Nicole F. Villeneuve, Pharmacology and Toxicology, 2006-2011 (thesis advisor)
* Zheng Sun, Pharmacology and Toxicology, 2005-2009 (thesis advisor)
* Huihui Wang, Chinese Medical University, China, 2010 (co-thesis advisor)
* Yi Zheng, Chinese Medical University, China, 2010-2012 (co-thesis advisor)
* Yu Du, Pharmaceutical Sciences, Shandong University, China, 2007-2008 (co-thesis advisor)

Ph.D. committee member:

* Argel Islas Robles, Pharmacology and Toxicology 2014-
* Hui Li, Pharmacology and Toxicology 2013-2017
* Shue Wang, Aerospace & Mechanical Engineering Department 2011-2016
* Joseph Tillotson, Pharmacology and Toxicology 2013-2016
* Aram B Cholanians, Pharmacology and Toxicology, 2011-2016
* Anika Dzierlenga, Pharmacology and Toxicology, 2010-2016
* Ryan Canatsey, Pharmacology and Toxicology, 2010-2016
* Jessica Sapiro, Pharmacology and Toxicology, 2010-2016
* Nick Mastrandrea, Pharmacology and Toxicology, 2008-2014
* Kevin Bray, Cell and Developmental Biology, Rutgers University, -2011 (advisor: Dr. Eileen White)
* Fei Zhao, Pharmacology and Toxicology, 2009-2013
* April D. Lake, Pharmacology and Toxicology, 2008-2013
* Parvathi Sinha, Pharmacology and Toxicology, 2008-2010
* Matthew Keane Medeiros, Pharmacology and Toxicology, 2007-2013
* Keika Okamoto, Pharmacology and Toxicology, 2008-2009
* Rhiannon N. Hardwick, Pharmacology and Toxicology, 2007-2012
* Ana Tula Sanchez, Pharmacology and Toxicology, 2006-2013
* Evisabel Arauz Craig, Pharmacology and Toxicology, 2006-2011
* Alicia Marie Bolt, Pharmacology and Toxicology, 2006-2012
* Shawn Michael Wnek, Pharmacology and Toxicology, 2006-2011
* Aaron Goldman, Cancer Biology, 2005-2010
* Ingrid Leal Druwe, Pharmacology and Toxicology, 2005-2012
* Matthew David Merrell, Pharmacology and Toxicology, 2006-2011
* Terence Henry Sy, Pharmacology and Toxicology, 2007-2009
* Christopher M Cabello, IGERT committee, 2007-2012

**MEDIA:**

* The Daily Widlcat “Six scientific successes that stole the show this year”: http://www.wildcat.arizona.edu/article/2016/10/in-case-you-missed-them-six-scientific-successes-that-stole-the-show-this-year
* Science News: <http://www.sciencemag.org/news/2016/04/some-diabetes-drugs-may-help-cancer-spread-mice>
* FOCUS newsletter: <http://www.allergyresearchgroup.com/focus/201505.htm>
* Medical News Today: <http://www.medicalnewstoday.com/releases/295410.php>
* [Health News Digest](http://www.healthnewsdigest.com/news/Cancer_Issues_660/Molecular-Component-of-Cinnamon-Prevents-Colorectal-Cancer-in-Mice.shtml), [Futurity (link is external)](http://www.futurity.org/cinnamon-compound-cancer-938282/)
* [KVOA (link is external)](http://www.kvoa.com/story/29280458/ua-researchers-cinnamon-may-be-key-in-cancer-prevention)
* [UA News (link is external)](http://uanews.org/story/cinnamon-research-holds-promise-for-colorectal-cancer-prevention)
* [UA Now (link is external)](http://uanews.org/node/59808)
* [MDLinx (link is external)](http://www.mdlinx.com/oncology/top-medical-news/article/2015/06/11/5)
* [EurekAlert! (link is external)](http://www.eurekalert.org/pub_releases/2015-06/uoac-urd061215.php)
* [MedicalXpress (link is external)](http://medicalxpress.com/news/2015-06-component-cinnamon-colorectal-cancer-mice.html).
* NBC local news; KVOA Chanel 4; segment Kristi’s Kids <http://www.kvoa.com/news/kristi-s-kids-learns-about-new-super-fruit/>

**PUBLICATIONS:**

***(Based on Google Scholar as of Nov.20, 2018: total citations 20026, h-index 56)***

**Book editor:**

3: **Comprehensive Toxicology, 3rd Edition**. Elsevier.

Editor-in-Chiefs: Charlene McQueen. ISBN: 9780081006016

***Chapter:*** Oxidative Signaling. de la Vega MR, Dodson M, Zhang DD. 2017

2: Johnson J, Puga A, Wallace KB, and Zhang DD. Editorial Overview: Nrf2 in Toxicology: An Update. [***Curr Opin Toxicol***](https://www.ncbi.nlm.nih.gov/pubmed/29082352)***.*** 2016,1.

***Chapter:***

de la Vega MR, Dodson M, Chapman E, Zhang DD. NRF2-targeted therapeutics: New targets and modes of NRF2 regulation. [***Curr Opin Toxicol***](https://www.ncbi.nlm.nih.gov/pubmed/29082352)***.***2016 Dec;1:62-70.

1: Zhang DD. 2010. The Nrf2-Keap1-ARE signaling pathway: The regulation and dual function of Nrf2

in cancer. ***Antioxid Redox Signal***.

***Chapter:***

Villeneuve NF, Lau A, Zhang DD. [Regulation of the Nrf2-Keap1 antioxidant response by the ubiquitin proteasome system: an insight into cullin-ring ubiquitin ligases.](http://www.ncbi.nlm.nih.gov/pubmed/20486766) ***Antioxid Redox Signal***. 2010 Dec 1;13(11):1699-712.

Peer-reviewed Articles:

# 133: Dodson M, de la Vega MR, Cholanians AB, Schmidlin CJ, Chapman E, Zhang DD. Modulating NRF2 in Disease: Timing Is Everything. *Annu Rev Pharmacol Toxicol*. 2018 Sep 26. PMID:30256716

# 132 Liu P, Rojo de la Vega M, Sammani S, Mascarenhas JB, Kerins M, Dodson M, Sun X, Wang T, Ooi A, Garcia JGN, Zhang DD. 2. RPA1 binding to NRF2 switches ARE-dependent transcriptional activation to ARE-NRE-dependent repression. *Proc Natl Acad Sci U S A*. 2018 Oct 30;115(44). PMID:30309964

# 131: Yang Y, Kong S, Zhang Y, Melo-Cardenas J, Gao B, Zhang Y, Zhang DD, Zhang B, Song J, Thorp E, Zhang K, Zhang J, Fang D. The endoplasmic reticulum-resident E3 ubiquitin ligase Hrd1 controls a critical checkpoint in B cell development in mice. *J Biol Chem*. 2018 Aug 17;293(33):12934-12944. PMID:29907570

# 130: Wei J, Yuan Y, Xu Y, Chen L, Zhang Y, Wang Y, Yang Y, Peek CB, Diebold L, Yang Y, Gao B, Jin C, Melo-Cardenas J, Chandel NS, Zhang DD, Pan H, Zhang K, Wang J, He F, Fang D. ER-associated ubiquitin ligase HRD1 programs liver metabolism by targeting multiple metabolic enzymes. *Nat Commun*. 2018 Sep 10;9(1):3659. PMID:30201971

# 129: Ray S, Corenblum MJ, Anandhan A, Reed A, Ortiz FO, Zhang DD, Barnes CA, and Madhavan L. 2018. A role for Nrf2 expression in defining the aging of hippocampal neural stem cells. *Cell transplantation*. *Cell Transplant*. 2018 Apr;27(4):589-606. PMID:29871525

# 128: Rojo de la Vega M, Chapman E, Zhang DD. NRF2 and the Hallmarks of Cancer. *Cancer Cell*. 2018 Jul 9;34(1):21-43. PMID:29731393

127: Rojo de la Vega M, Zhang DD. NRF2 Induction for NASH Treatment: A New Hope Rises. ***Cell Mol Gastroenterol Hepatol***. 2018 Jan 10;5(3):422-423. doi: 10.1016/j.jcmgh.2017.12.009. eCollection 2018 Mar. No abstract available. PMID:29675456

126: Rojo de la Vega M, Zhang DD\*, Wondrak GT\*. Topical Bixin Confers NRF2-Dependent Protection Against Photodamage and Hair Graying in Mouse Skin. ***Front Pharmacol***. 2018 Mar 27;9:287. doi:10.3389/fphar.2018.00287. eCollection 2018. PMID:2963669

125: Dodson M, Liu P, Jiang T, Ambrose AJ, Luo G, Rojo de la Vega M, Cholanians AB, Wong PK, Chapman E, Zhang DD. Increased O-GlcNAcylation of SNAP29 drives arsenic-induced autophagic dysfunction. ***Mol Cell Biol.*** 2018 Mar 5.pii: MCB.00595-17. doi: 10.1128/MCB.00595-17. [Epub ahead of print] PMID:29507186

124: Dodson M, de la Vega MR, Harder B, Castro-Portuguez R, Rodrigues SD, Wong PK, Chapman E, Zhang DD. Low-level arsenic causes proteotoxic stress and not oxidative stress. ***Toxicol Appl Pharmacol***. 2018 Feb 15;341:106-113. doi: 10.1016/j.taap.2018.01.014. Epub 2018 Feb 3. PMID:29408041

123: Rojo de la Vega M, Krajisnik A, Zhang DD, Wondrak GT. Targeting NRF2 for Improved Skin Barrier Function and Photoprotection: Focus on the Achiote-Derived Apocarotenoid Bixin. ***Nutrients.*** 2017 Dec 18;9(12). pii: E1371. doi:10.3390/nu9121371. Review. PMID:29258247

122: Wang S, Xiao Y, Zhang DD, Wong PK. Non-Canonical activation of NRF2: A gapmer aptamer nanobiosensor for real-time monitoring of transcription and translation in single cells. ***Biomaterials.*** 2018 Feb;156:56-64. doi: 10.1016/j.biomaterials.2017.11.026. Epub 2017 Nov 24. PMID:29190498.

121: Tian W, Rojo de la Vega M, Schmidlin CJ, Ooi A, Zhang DD. Kelch-like ECH-associated protein 1 (KEAP1) differentially regulates nuclear factor erythroid-2-related factors 1 and 2 (NRF1 and NRF2). ***J Biol Chem***. 2018 Feb 9;293(6):2029-2040. doi: 10.1074/jbc.RA117.000428. PMID:29255090.

120: Rojo de la Vega M, Krajisnik A, Zhang DD, Wondrak GT. Targeting NRF2 for Improved Skin Barrier Function and Photoprotection: Focus on the Achiote-Derived Apocarotenoid Bixin. ***Nutrients***. 2017 Dec 18;9(12). pii: E1371. doi: 10.3390/nu9121371. Review. PMID: 29258247

119: Stockwell BR, Friedmann Angeli JP, Bayir H, Bush AI, Conrad M, Dixon SJ, Fulda S, Gascón S, Hatzios SK, Kagan VE, Noel K, Jiang X, Linkermann A, Murphy ME, Overholtzer M, Oyagi A, Pagnussat GC, Park J, Ran Q, Rosenfeld CS, Salnikow K, Tang D, Torti FM, Torti SV, Toyokuni S, Woerpel KA, Zhang DD. Ferroptosis: A Regulated Cell Death Nexus Linking Metabolism, Redox Biology, and Disease. ***Cell.*** 2017 Oct 5;171(2):273-285. doi: 10.1016/j.cell.2017.09.021. Review. PMID: 28985560.

118: Dodson M, Zhang DD. Non-Canonical activation of NRF2: New insights and its relevance to disease. ***Curr Pathobiol Rep.*** 2017 Jun;5(2):171-176. doi: 10.1007/s40139-017-0131-0. Epub 2017 Apr 19. PMID:29082113.

117: Wang S, Sun J, Xiao Y, Lu Y, Zhang DD, Wong PK. Intercellular Tension Negatively Regulates Angiogenic Sprouting of Endothelial Tip Cells via Notch1-Dll4 Signaling. ***Advanced Biosystems.*** 2017 Jan. 31. doi: 10.1002/adbi.201600019.

116: Tao S, de la Vega MR, Chapman E, Ooi A, Zhang DD. The effects of NRF2 modulation on the initiation and progression of chemically and genetically induced lung cancer. ***Mol Carcinog.*** 2018 Feb;57(2):182-192. doi: 10.1002/mc.22745. Epub 2017 Nov 6. PMID:28976703.

115: Long M, Li X, Li L, Dodson M, Zhang DD, Zheng H. Multifunctional p62 Effects Underlie Diverse Metabolic Diseases. ***Trends Endocrinol Metab.*** 2017 Nov;28(11):818-830. doi: 10.1016/j.tem.2017.09.001. Epub 2017 Sep 28. Review. PMID:28966079.

114: Tillotson J, Kedzior M, Guimarães L, Ross AB, Peters TL, Ambrose AJ, Schmidlin CJ, Zhang DD, Costa-Lotufo LV, Rodríguez AD, Schatz JH, Chapman E. ATP-competitive, marine derived natural products that target the DEAD box helicase, eIF4A. ***Bioorg Med Chem Lett.*** 2017 Sep 1;27(17):4082-4085. doi: 10.1016/j.bmcl.2017.07.045. Epub 2017 Jul 19. PubMed PMID:28757063.

113: Tillotson J, Zerio CJ, Harder B, Ambrose AJ, Jung KS, Kang M, Zhang DD\*, Chapman E. Arsenic Compromises Both p97 and Proteasome Functions. ***Chem Res*** ***Toxicol.*** 2017 Jul 17;30(7):1508-1514. doi: 10.1021/acs.chemrestox.7b00158. Epub 2017 Jul 7. PubMed PMID: 28636814.

112: Bao L, Wu J, Dodson M, Rojo de la Vega EM, Ning Y, Zhang Z, Yao M, Zhang DD, Xu C, Yi X. ABCF2, an Nrf2 target gene, contributes to cisplatin resistance in ovarian cancer cells. ***Mol Carcinog.*** 2017 Jun;56(6):1543-1553. doi: 10.1002/mc.22615. Epub 2017 May 2. PMID: 28112439.

111: Gao B, Kong Q, Zhang Y, Yun C, Dent SYR, Song J, Zhang DD, Wang Y, Li X, Fang D. The Histone Acetyltransferase Gcn5 Positively Regulates T Cell Activation. ***J*** ***Immunol.*** 2017 May 15;198(10):3927-3938. doi: 10.4049/jimmunol.1600312. Epub 2017 Apr 19. PubMed PMID: 28424240.

110: Harder B, Tian W, La Clair JJ, Tan AC, Ooi A, Chapman E, Zhang DD. Brusatol overcomes chemoresistance through inhibition of protein translation. ***Mol*** ***Carcinog.*** 2017 May;56(5):1493-1500. doi: 10.1002/mc.22609. Epub 2017 Feb 8. PMID: 28019675

109: Tao S, Liu P, Luo G, Rojo de la Vega M, Chen H, Wu T, Tillotson J, Chapman E, Zhang DD. p97 Negatively Regulates NRF2 by Extracting Ubiquitylated NRF2 from the KEAP1-CUL3 E3 Complex***. Mol Cell Biol.*** 2017 Mar 31;37(8). pii: e00660-16. doi:10.1128/MCB.00660-16. Print 2017 Apr 15. PubMed PMID: 28115426.

108: de la Vega MR, Dodson M, Chapman E, Zhang DD. NRF2-targeted therapeutics: New targets and modes of NRF2 regulation. [***Curr Opin Toxicol***](https://www.ncbi.nlm.nih.gov/pubmed/29082352)***.***2016 Dec;1:62-70. doi:10.1016/j.cotox.2016.10.005. Epub 2016 Oct 12.

107: Wang S, Sun J, Zhang DD, Wong PK. [A nanobiosensor for dynamic single cell analysis during microvascular self-organization.](https://www.ncbi.nlm.nih.gov/pubmed/27547924) ***Nanoscale.*** 2016 Oct 14;8(38):16894-901. doi: 10.1039/c6nr03907c. PMID:27547924

106: Kong S, Yang Y, Xu Y, Wang Y, Zhang Y, Melo-Cardenas J, Xu X, Gao B, Thorp EB, Zhang DD, Zhang B, Song J, Zhang K, Zhang J, Zhang J, Li H, Fang D. [Endoplasmic reticulum-resident E3 ubiquitin ligase Hrd1 controls B-cell immunity through degradation of the death receptor CD95/Fas.](http://www.ncbi.nlm.nih.gov/pubmed/27573825) ***Proc Natl Acad Sci U S A.*** 2016 Sep 13:113(37):10394-9. doi: 10.1073/pnas.1606742113. PMID: 27573825

105: Wang H, Rojo de la Vega M, Zhang DD*\**, Yu S*\**, Zheng H*\**. [Response to comment on "NRF2 activation by antioxidant antidiabetic agents accelerates tumor metastasis".](http://www.ncbi.nlm.nih.gov/pubmed/27464746) ***Sci Transl Med.*** 2016 Jul 27;8(349):349lr1. doi: 10.1126/scitranslmed.aag1805. PMID: 27464746

104: Xu Y, Zhao F, Qiu Q, Chen K, Wei J, Kong Q, Gao B, Melo-Cardenas J, Zhang B, Zhang J, Song J, Zhang DD, Zhang J, Fan Y, Li H, Fang D. [The ER membrane-anchored ubiquitin ligase Hrd1 is a positive regulator of T-cell immunity.](http://www.ncbi.nlm.nih.gov/pubmed/27417417) ***Nat Commun.*** 2016 Jul 15;7:12073. doi: 10.1038/ncomms12073. PMID: 27417417

103: de la Vega MR, Dodson M, Gross C, Manzour H, Lantz RC, Chapman E, Wang T, Black SM, Garcia JG, Zhang DD. [Role of Nrf2 and Autophagy in Acute Lung Injury.](http://www.ncbi.nlm.nih.gov/pubmed/27313980) ***Curr Pharmacol Rep.*** 2016 Apr;2(2):91-101. PMID: 27313980

102: Sun J, Hoying JB, Deymier PA, Zhang DD, Wong PK. [Cellular Architecture Regulates Collective Calcium Signaling and Cell Contractility.](http://www.ncbi.nlm.nih.gov/pubmed/27196735) ***PLoS Comput Biol.*** 2016 May 19;12(5):e1004955. doi: 10.1371/journal.pcbi.1004955. PMID: 27196735

101: Corenblum MJ, Ray S, Remley QW, Long M, Harder B, Zhang DD, Barnes CA, Madhavan L. Reduced Nrf2 expression mediates the decline in neural stem cell function during a critical middle-age period. ***Aging Cell.*** 2016 Aug: 15(4):725-36. Doi:10.1111/acel.12482. PMID: 27095375

100: Tang Q, Liang M, Lu Y, Wong PK, Wilmink GJ, Zhang DD, Xin H. Microfluidic Devices for Terahertz Spectroscopy of Live Cells Toward Lab-on-a-Chip Applications. ***Sensors (Basel).*** 2016 Apr 4;16(4). pii: E476. doi: 10.3390/s16040476. PMID: 27049392

99: Wang H, Liu X, Long M, Hunag Y, Zhang L, Zhang R, Zheng Y, Liao X, Wang Y, Liao Q, Li W, Tang Z, Tong Q, Wang X, Fang F, Long M, Rojo de la Vega M, Ouyang Q, Zhang DD\*, Yu S\*, and Zheng H\*. NRF2 activation by anti-diabetic agents accelerates tumor metastasis. ***Sci Transl Med****.* 2016 Apr 13;8(334):334ra51. doi: 10.1126/scitranslmed.aad6095. PMID: 27075625

98: Melo-Cardenas J, Zhang Y, Zhang DD, Fang D. Ubiquitin-specific peptidase 22 functions and its involvement in disease. ***Oncotarget.*** 2016 Jul 12;7(28):44848-44856. doi: 10.18632/oncotarget.8602. Review. PMID: 27057639

97: Wang Y, Wang Y, Zhang Z, Park JY, Guo D, Liao H, Yi X, Zheng Y, Zhang DD, Chambers SK, Zheng W. Mechanism of progestin resistance in endometrial precancer/cancer through Nrf2-AKR1C1 pathway. ***Oncotarget.*** 2016 Mar 1;7(9):10363-72. doi: 10.18632/oncotarget.7004. PMID: 26824415

96: Chen W, Li S, Li J, Zhou W, Wu S, Xu S, Cui K, Zhang DD, Liu B. Artemisitene activates the Nrf2-dependent antioxidant response and protects against bleomycin-induced lung injury. ***FASEB J***. 2016 Jul;30(7):2500-10. doi: 10.1096/fj.201500109R. Epub 2016 Mar 22. PMID: 27006451

95: Klionsky DJ, Abdelmohsen K, Abe A, et. al. Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). ***Autophagy***. 2016 Jan 2;12(1):1-222. No abstract available. PMID: 26799652

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* 27:  Sun Z, Huang Z, Zhang DD. [Phosphorylation of Nrf2 at multiple sites by MAP kinases has a limited contribution in modulating the Nrf2-dependent antioxidant response.](http://www.ncbi.nlm.nih.gov/pubmed/19668370) ***PLoS One***. 2009 Aug 11;4(8):e6588. doi: 10.1371/journal.pone.0006588. PubMed PMID: 19668370; PubMed Central PMCID: PMC2719090.
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* 21:  Du Y, Villeneuve NF, Wang XJ, Sun Z, Chen W, Li J, Lou H, Wong PK, Zhang DD. [Oridonin confers protection against arsenic-induced toxicity through activation of the Nrf2-mediated defensive response.](http://www.ncbi.nlm.nih.gov/pubmed/18795156) ***Environ Health Perspect***. 2008 Sep;116(9):1154-61. doi: 10.1289/ehp.11464. PubMed PMID: 18795156; PubMed Central PMCID: PMC2535615.
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* 19: Wang Z, Gidwani V, Zhang DD, Wong PK. [Separation-free detection of nuclear factor kappa B with double-stranded molecular probes.](http://www.ncbi.nlm.nih.gov/pubmed/18645638) ***Analyst***. 2008 Aug;133(8):998-1000. doi: 10.1039/b809113g. Epub 2008 Jun 24. PubMed PMID: 18645638.
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* 17:  Wang XJ, Sun Z, Chen W, Li Y, Villeneuve NF, Zhang DD. [Activation of Nrf2 by arsenite and monomethylarsonous acid is independent of Keap1-C151: enhanced Keap1-Cul3 interaction.](http://www.ncbi.nlm.nih.gov/pubmed/18417180) ***Toxicol Appl Pharmacol*.** 2008 Aug 1;230(3):383-9. doi: 10.1016/j.taap.2008.03.003. Epub 2008 Mar 12. PubMed PMID: 18417180; PubMed Central PMCID: PMC2610481.
* 16:  Wang XJ, Sun Z, Villeneuve NF, Zhang S, Zhao F, Li Y, Chen W, Yi X, Zheng W, Wondrak GT, Wong PK, Zhang DD. [Nrf2 enhances resistance of cancer cells to chemotherapeutic drugs, the dark side of Nrf2.](http://www.ncbi.nlm.nih.gov/pubmed/18413364) ***Carcinogenesis***. 2008 Jun;29(6):1235-43. doi: 10.1093/carcin/bgn095. Epub 2008 Apr 15. PubMed PMID: 18413364; PubMed Central PMCID: PMC3312612.
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* 14:  Wang XJ, Sun Z, Chen W, Eblin KE, Gandolfi JA, Zhang DD. [Nrf2 protects human bladder urothelial cells from arsenite and monomethylarsonous acid toxicity.](http://www.ncbi.nlm.nih.gov/pubmed/17765279) ***Toxicol Appl Pharmacol***. 2007 Dec 1;225(2):206-13. Epub 2007 Aug 7. PubMed PMID: 17765279; PubMed Central PMCID: PMC2610476.
* 13:  Sun Z, Zhang S, Chan JY, Zhang DD. [Keap1 controls postinduction repression of the Nrf2-mediated antioxidant response by escorting nuclear export of Nrf2.](http://www.ncbi.nlm.nih.gov/pubmed/17636022) ***Mol Cell Biol***. 2007 Sep;27(18):6334-49. Epub 2007 Jul 16. PubMed PMID: 17636022; PubMed Central PMCID: PMC2099624.
* 12:  Zhang DD. [Mechanistic studies of the Nrf2-Keap1 signaling pathway.](http://www.ncbi.nlm.nih.gov/pubmed/17145701) ***Drug Metab Rev***. 2006;38(4):769-89. Review. PubMed PMID: 17145701.
* *(Beginning of the independent position at University of Arizona)*
* 11: Ansell PJ, Lo SC, Newton LG, Espinosa-Nicholas C, Zhang DD, Liu JH, Hannink M, Lubahn DB. [Repression of cancer protective genes by 17beta-estradiol: ligand-dependent interaction between human Nrf2 and estrogen receptor alpha.](http://www.ncbi.nlm.nih.gov/pubmed/16198475) ***Mol Cell Endocrinol***. 2005 Nov 24;243(1-2):27-34. Epub 2005 Sep 28. PubMed PMID: 16198475.
* 10:  Zhang DD, Lo SC, Sun Z, Habib GM, Lieberman MW, Hannink M. [Ubiquitination of Keap1, a BTB-Kelch substrate adaptor protein for Cul3, targets Keap1 for degradation by a proteasome-independent pathway.](http://www.ncbi.nlm.nih.gov/pubmed/15983046) ***J Biol Chem***. 2005 Aug 26;280(34):30091-9. Epub 2005 Jun 27. PubMed PMID: 15983046.
* 9:  Li X, Zhang D, Hannink M, Beamer LJ. [Crystal structure of the Kelch domain of human Keap1.](http://www.ncbi.nlm.nih.gov/pubmed/15475350) ***J Biol Chem***. 2004 Dec 24;279(52):54750-8. Epub 2004 Oct 8. PubMed PMID: 15475350.
* 8:  Zhang DD, Lo SC, Cross JV, Templeton DJ, Hannink M. [Keap1 is a redox-regulated substrate adaptor protein for a Cul3-dependent ubiquitin ligase complex.](http://www.ncbi.nlm.nih.gov/pubmed/15572695) ***Mol Cell Biol***. 2004 Dec;24(24):10941-53. PubMed PMID: 15572695; PubMed Central PMCID: PMC533977.
* 7:  Li X, Zhang D, Hannink M, Beamer LJ. [Crystallization and initial crystallographic analysis of the Kelch domain from human Keap1.](http://www.ncbi.nlm.nih.gov/pubmed/15583386) ***Acta Crystallogr D Biol Crystallogr***. 2004 Dec;60(Pt 12 Pt 2):2346-8. Epub 2004 Nov 26. PubMed PMID: 15583386.
* 6:  Zhang DD, Hannink M. [Distinct cysteine residues in Keap1 are required for Keap1-dependent ubiquitination of Nrf2 and for stabilization of Nrf2 by chemopreventive agents and oxidative stress.](http://www.ncbi.nlm.nih.gov/pubmed/14585973) ***Mol Cell Biol***. 2003 Nov;23(22):8137-51. PubMed PMID: 14585973; PubMed Central PMCID: PMC262403.
* 5:  Cullinan SB, Zhang D, Hannink M, Arvisais E, Kaufman RJ, Diehl JA. [Nrf2 is a direct PERK substrate and effector of PERK-dependent cell survival.](http://www.ncbi.nlm.nih.gov/pubmed/14517290) ***Mol Cell Biol***. 2003 Oct;23(20):7198-209. PubMed PMID: 14517290; PubMed Central PMCID: PMC230321.
* 4:  Salnikow K, Davidson T, Kluz T, Chen H, Zhou D*#*, Costa M. [GeneChip analysis of signaling pathways effected by nickel.](http://www.ncbi.nlm.nih.gov/pubmed/12729255) ***J Environ Monit***. 2003 Apr;5(2):206-9. PubMed PMID: 12729255.
* 3:  Zhang DD, Hartsky MA, Warheit DB. [Time course of quartz and TiO(2) particle-induced pulmonary inflammation and neutrophil apoptotic responses in rats.](http://www.ncbi.nlm.nih.gov/pubmed/12490038) ***Exp Lung Res***. 2002 Dec;28(8):641-70. PubMed PMID: 12490038.
* 2:  Sachdev S, Bagchi S, Zhang DD, Mings AC, Hannink M. [Nuclear import of IkappaBalpha is accomplished by a ran-independent transport pathway.](http://www.ncbi.nlm.nih.gov/pubmed/10669735) ***Mol Cell Biol***. 2000 Mar;20(5):1571-82. PubMed PMID: 10669735; PubMed Central PMCID: PMC85341.
* 1: Zhou D*#*, Salnikow K, Costa M. [Cap43, a novel gene specifically induced by Ni2+ compounds.](http://www.ncbi.nlm.nih.gov/pubmed/9605764) ***Cancer Res***. 1998 May 15;58(10):2182-9. PubMed PMID: 9605764.

*\*Co-corresponding author*

*#Zhou D. is the former name of Zhang DD*

**Scholarly Presentations:** (In the current position)

**Invited symposiums:**

Nov. 2018 Cold Spring Harbor Conference Asia, Suzhou, China

“NRF2, ROS, and Ferroptosis in human disease.”

Nov. 2018 The Gerontological Society of America (GSA) 2018 Annual Scientific Meeting

Biological Sciences Presidential Symposium: Free Radicals and Redox Regulation in Aging

“Reactive oxygen species and NRF2 signaling in human aging and diseases”

April. 2018 ASPET Annual Meeting at EB-2018

“Canonical and Non-Canonical Pathways of NRF2 activation.”

March. 2018 Cancer Colloquium 2018, St Andrews

“Nrf2, Primary Cilia and Hedgehog Signaling in Cancer.”

Nov. 2017 GSK Sponsored NRF2 Symposium in Suburban Philadelphia

“The Role of Nrf2 in disease prevention and intervention.”

June 2017 4th Red House Forum, International Obstetrics & Gynecology Summit. Shanghai, China.

“The Dual Role of Nrf2 in Cancer.”

April 2017 Better Cancer Therapy from Redox Biology. The Bunbury Center, Cold Spring Harbor Laboratory, NY.

“Role of Nrf2 in Cancer initiation, progression and metastasis.”

April 2017 Ferroptosis: A Critical Review. The Banbury Center, Cold Spring Harbor Laboratory, NY.

“Nrf2: an integrator of cellular iron and redox signaling.”

Oct. 2016 9th conference on metal toxicity and carcinogenesis, Lexington, Kentucky, US.

“Arsenic blocks autophagy by interfering with the autophagosome-lysosome fusion.”

Oct. 2016 International Union of Toxicologists (IUTOX)/XIV International Congress of Toxicology, Merida, Maxico.

Section: Molecular Toxicology

Talk: “Arsenic blocks autophagy by interfering with the autophagosome-lysosome fusion”

Aug. 2016 Pioneer Century Science (PCS) Global Diabetes Conference.

Theme: Innovation, Collaboration, Intergration, Globalization. Moscow, Russia.

Talk: “The Role of Nrf2 in Diabetic Diseases”

Apr. 2016 American Society for Pharmacology and Experimental Therapeutics (ASPET), Federation of American Societies For Experimental Biology 2013 annual meeting, San Diego, CA.

Section: “Advances in Toxicogenetics of Metals.”

Talk: “A Novel Mechanism of Arsenic in Modulating Autophagy and Nrf2 Stress Responses.”

Mar. 2016 The Society of Toxicology annual meeting, New Orleans, Louisiana, US.

Section: “Novel roles of reactive oxygen species (ROS) in human diseases: Why ROS never gets stale?”

Talk; “Nrf2: Tumor suppressor or oncogene?”

Feb. 2016 6th International Conference on Metals in Genetics, Chemical Biology and Therapeutics (ICMG-2016). Bangalore, India.

Session VIA:

Talk; “Nrf2 in arsenic toxicity and carcinogenicity”

Mar. 2015 The Society of Toxicology annual meeting, San Diego, CA.

Section: “Nrf2 signaling pathways in model systems: a master regulator of neurotoxicity and a potential therapeutic target.”

Talk; “The molecular mechanisms of Nrf2 regulation beyond Keap1: developing therapeutics targeting the “correct” E3 ubiquitin ligase for Nrf2 activation”

Jan. 2015 International symposiums The Keap1/Nrf2 pathway in Health and Disease, Robinson College, Cambridge, UK

“Nrf2: Molecular regulatory mechanisms and chemical modulation”

Nov. 2014 SFRBM Annual Meeting, Seattle, WA

Plenary Session: The Keap1-Nrf2 signaling pathway: Role in disease and pharmacological approaches

Talk “Nrf2 regulation and its dual role in cancer.”

Oct. 2014 ROS in Biology and Cancer. The Banbury Center, Cold Spring Harbor Laboratory, NY

“Nrf2 regulation and its dual role in cancer.”

Feb. 2014 International Symposium, "Molecular mechanisms of the environmental response to food and oxygen IV," Sendai, Japan.

“The molecular mechanisms of Nrf2 regulation beyond Keap1”

Nov. 2013 Boston U. Pharmacology & Experimental Therapeutics-Pfizer Symposium, Boston, MA

Therapeutic Innovation: Oxidative Stress and The Next Generation of Discovery

Talk: “The Nrf2-Keap1-ARE pathway and its dual roles in cancer.”

Aug. 2013 Gordon Research Conferences on Cellular & Molecular Mechanisms of Toxicity,

Andover, NH.

Section: “Nuclear Factor (Erythroid-derived 2) – Like 2 (Nrf2): is it all Good?”

Talk: “The regulation of Nrf2 and its dual role in cancer.”

Jul. 2013 The 14th SCBA International Symposium

Section: “Autophagy in Development and Disease”

Talk: "The role of autophagy in modulating the Nrf2-Keap1-ARE pathway”

Apr. 2013 The American Physiological Society, Federation of American Societies For Experimental Biology 2013 annual meeting, Boston, MA.

Section: “Nrf2 Signal Pathway in Human Diseases as Novel Therapeutics.”

Talk: “The Nrf2-Keap1-ARE pathway and the dual roles of Nrf2 in cancer.”

Oct. 2012 7th conference on metal toxicity and carcinogenesis, Albuquerque, New Mexico, US.

“The Distinct Mechanism of Nrf2 Activation by Arsenic.”

Jul. 2012 The 1st international Chinese Symposium on Free Radical, Lanzhou, China.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Jun. 2012 International Society for the Study of Xenobiotics (MDO-ISSX), Noordwijk aan Zee, Netherlands.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Oct. 2011 International Society for Trace Element Research in Humans (ISTERH),

Antalya (Belek), Turkey.

“Arsenic and the Nrf2-Keap1 pathway.”

Jul. 2011 Outstanding New Environmental Health Scientist Forum, Research Triangle Park, North Carolina, US.

“The protective role of Nrf2 against arsenic-induced toxicity and carcinogenicity.”

Mar. 2011 50th Anniversary of Society of Toxicology annual meeting, Washington, D. C., US.

Chair: “New insights into the Nrf2-Keap1 pathway and its impact on human disease.”

Talk: “Getting caught in the web of Nrf2-Keap1.”

Jul. 2010 Biological Reactive Intermediates International Conference VIII, Barcelona, Spain.

Talk 1: “The role of the Keap1-Nrf2-Cul3 system in cancer chemoprevention by natural products.”

Talk 2: “The Nrf2-Keap1-ARE signaling pathway and its dual role in cancer.”

May. 2010 International Conference on Biomedical and Environmental Sciences and Technology, Beijing, China.

“Regulation of the Nrf2-mediated antioxidant response by Keap1: The protective role of Nrf2 against arsenic induced toxicity and carcinogenicity”

Nov. 2009 International Symposium, “Inflammation and Redox signaling,” Seoul, Korea.

“The role of Nrf2 in cancer: the dark side”

#### Aug. 2009 Federation of American Societies for Experimental Biology annual meeting, "Histone deacetylases and reversible acetylation in signaling and disease," Lucca, Italy.

“Regulation of the Nrf2-dependent antioxidant response.”

Feb. 2009 International Symposium, "Molecular mechanisms of the environmental response to food and oxygen III," Sendai, Japan.

“Direct interaction between Nrf2 and p21Cip1/WAF1 upregulates the Nrf2-mediated antioxidant response & acetylation in modulating the Nrf2 dependent antioxidant response.”

Nov. 2008 American College of Toxicology annual meeting, Tucson, Arizona, US.

“The Nrf2-dependent cellular defense mechanism in arsenic toxicity.”

Jan. 2008 International Conference on Nano/Micro Engineered and Molecular Systems annual meeting, Sanya, China.

“High-throughput screening of chemopreventive compounds that activates the Nrf2-dependent signaling transduction pathway.”

Jan. 2006 Biological Reactive Intermediates International Conference VII, Tucson, Arizona, US.

“The Nrf2/Keap1 signaling pathway, oxidative stress, and chemoprevention.”

**Invited seminars:**

Nov. 2018 Biology and Medical Sciences, Suzhou University, Suzhou, China

“The NRF2-KEAP1-ARE Signal Pathway: Regulation and Dual Role in Cancer”

Oct. 2018 The University of Arkansas for Medical Sciences (UAMS) Cancer Institute Forum, Little Rock, AR

“The intriguing role of NRF2 in cancer”

Feb. 2018 BCP Journal Club Seminar, Department of Chemistry & Biochemistry, University of Arizona

“Targeting Nrf2 for disease prevention and intervention”

Jan. 2018 Department of Chemistry & Chemical Biology, University of New Mexico

“Targeting Nrf2 for disease prevention and intervention”

Dec. 2017 UAHS Pathobiology Lung Seminar

“Targeting Nrf2 for disease prevention and intervention”

Nov. 2017 Department of Cell Biology, Albert Einstein College of Medicine

“The role of Nrf2 in cancer prevention and intervention”

Oct. 2017 Basic Medical Sciences, College of Medicine, UA Phoenix.

“The role of Nrf2 in cancer prevention and intervention.”

Sept. 2017 Integrative Biosciences & Department of Pharmaceutical Sciences, Wayne State University.

“Nrf2 in Environmental Response and Disease Intervention.”

May 2017 Department of Cell Systems & Anatomy, UT Health.

“Nrf2 in Environmental Response and Disease Intervention.”

April 2017 Department of Toxicology & Cancer Biology, University of Kentucky.

“Nrf2 in Environmental Response and Disease Intervention.”

Feb. 2017 Cancer Center, Medical College of Wisconsin.

“Nrf2 in Environmental Response and Disease Intervention.”

June 2016 ICIMED Investigación en Ciencias Médicas, Universidad de Ciencias Médicas, Costa Rica.

“The dual role of Nrf2 in cancer: chemical modulation of Nrf2 for cancer intervention.”

March 2016 Department of Pharmaceutical Sciences, School of Pharmacy, University of Connecticut

“Nrf2 in Environmental Response and Disease Intervention.”

Jan. 2016 Pharmacy and Pharmaceutical Sciences, University of Colorado

“Nrf2 in Environmental Response and Disease Intervention.”

Jan. 2016 Cancer Biology, the University of Arizona Cancer Center

“Nrf2 in Environmental Response and Disease Intervention.”

Jan. 2016 Cancer Prevention and Control Program, the University of Arizona Cancer Center

“Nrf2 in Environmental Response and Disease Intervention.”

Dec. 2015 The University of Arizona Cancer Center

“Harnessing Nrf2 for Cytoprotection: From the Inside to the Outside.”

Nov. 2015 Department of Pharmacology & Chemical Biology, University of Pittsburgh

“The dual role of Nrf2 in cancer.”

Nov. 2014 University of Nebraska-Lincoln, the Biochemistry Department, Redox Biology Center

“The dual role of Nrf2 in cancer: Nrf2 modulators as a novel anti-cancer therapeutics.”

Sep. 2014 University of Arizona Cancer Center, Cancer Biology Seminar

“The dual role of Nrf2 in cancer: Modulators of the Nrf2-Keap1-ARE pathway as a novel anti-cancer therapeutics.”

Aug. 2014 Ventana medical systems, Inc. Tucson, Arizona

“The dual role of Nrf2 in cancer: Modulators of the Nrf2-Keap1-ARE pathway as a novel anti-cancer therapeutics.”

Jul. 2014 Natural Products Affinity Group (NPAG), San Diego, CA

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Apr. 2014 Xinqiao Hospital Medical School, Third Military Medical University, Chongqing, China.

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Apr. 2014 College of Pharmacy, Zhejiang Ocean University, Zhoushan, Zhejiang, China

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Mar. 2014 The University of Southern California, Free Radical Institute, Los Angeles, CA.

“The regulation of Nrf2 and its dual role in cancer.”

Nov. 2013 Sanofi, Tucson Research Center, Oro valley, AZ

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Nov. 2013 Pfizer, Boston, MA

“Modulators of the Nrf2-Keap1-ARE pathway as novel therapeutics.”

Jul. 2013 School of Pharmaceutical Sciences, Shandong University, Jinan, Shandong, China.

“The Nrf2-Keap1 pathway and its dual role in cancer.”

May. 2013 Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC.

“The Nrf2-Keap1 pathway and its dual role in cancer.”

Apr. 2013 Department of Pharmacology and Toxicology, School of Pharmacy, University of Missouri-Kansas City, Kansas, MO.

“The Nrf2-Keap1-ARE pathway and its dual role in cancer.”

Feb. 2013 Van Andel Research Institute, Grand Rapids, MI.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Aug. 2012 Department of Gynecology, Hospital of OB/GYN, Fudan University, Shanghai, China

“The dual role of Nrf2 in cancer.”

Mar. 2012 Cancer Prevention and Control, University of Arizona cancer Center, Tucson, Arizona, US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Feb. 2012 Department of Pulmonary Medicine, the University of Texas MD Anderson Cancer Center, Houston, TX, US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Feb. 2012 Department of Pathology & Laboratory Medicine, Brown University, Providence, RI, US.

“The Nrf2-Keap1-ARE pathway and a novel mechanism of Nrf2 induction by arsenic.”

Feb. 2012 College of Medicine-Phoenix, University of Arizona, Phoenix, Arizona, US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Jan. 2012 Cellular and Molecular Basis of Disease (CMBD) series, School of Medicine, The University of New Mexico, Albuquerque, New Mexico, US.

“The Nrf2-Keap1-ARE pathway and it dual role in cancer.”

Jan. 2012 NYU Langone Medical Center/Cancer Institute, New York University, New York. US.

“The Nrf2-Keap1-ARE pathway and the dual role of Nrf2 in cancer.”

Jan. 2012 Nelson Institute of Environmental Medicine, New York University, New York. US.

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

Dec. 2011 King Abdullah University of Science and Technology, Jeddah, Saudi Arabia.

“Cellular stress response and human disease.”

Nov. 2011 Barshop Institute for Longevity and Aging Studies, San Antonio, Texas, US.

“Dual role of Nrf2 in human disease.”

Sep. 2011 Department of Chemical and Environmental Engineering, University of Arizona, Tucson, Arizona, US.

“Cell-based high throughput screening of environmental pollutants.”

Feb. 2011 Public Health, Chinese Medical University, Shenyang, China.

“The Nrf2-mediated defense system.”

Jan. 2011 Department of Pathology, Northwestern University Feinberg School of Medicine, Chicago, Illinois, US.

“The Nrf2-Keap1-ARE signaling pathway and its dual role in cancer.”

May. 2010 Xinqiao Hospital Medical School, Third Military Medical University, Chongqing, China.

“The Nrf2-Keap1-ARE signaling pathway and human diseases.”

Mar. 2010 Department of Pharmacology, School of Medicine, Tucson, Arizona, US.

“Molecular program of cellular defense.”

Jan. 2010 Cancer Prevention and Control, Arizona Cancer Center, Tucson, Arizona, US.

“Dual Role of Nrf2 in Cancer: The Nrf2-Keap1-ARE signaling pathway.”

Dec. 2009 University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, US.

“Dual role of Nrf2 in cancer: The Nrf2-Keap1-ARE signaling pathway.”

Nov. 2009 College of Pharmacy, Seoul National University, Seoul, Korea.

“Regulation of Nrf2-mediated antioxidant response.”

Oct. 2009 The Cancer Institute of New Jersey (UMDNJ/CINJ), New Brunswick, New Jersey, US.

“Dual role of Nrf2 in cancer: The Nrf2-Keap1-ARE signaling pathway.”

Sep. 2009 Department of Pharmacology and Toxicology, College of Pharmacy, Tucson, Arizona, US.

“The Regulation of an Antioxidant Response Mediated by The Nrf2-Keap1-ARE signaling pathway.”

Apr. 2009 Nelson Institute of Environmental Medicine, New York University Medical School, New York, New York, US.

“The Nrf2-dependent antioxidant response: the antioxidant function of p21Cip1/WAF1 is mediated by Nrf2.”

Nov. 2008 Biological Chemistry Graduate Program, Tucson, Arizona, US.

“Acetylation of Nrf2 by p300/CBP augments promoter-specific DNA binding of Nrf2 during antioxidant response.”

Jan. 2008 School of Pharmaceutical Sciences, Shandong University, Jinan, Shandong, China.

“The Nrf2-mediated endogenous antioxidant response.”

Jan. 2008 Fudan Medical School, Fudan University, China .

“The Nrf2-Keap1 signaling pathway and the endogenous antioxidant response.”

Oct. 2007 National Institute of Environmental Health Science center director annual meeting, Corvallis, Oregon, US.

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

Mar. 2007 Department of Pathology, University of California, Irvine, California, US.

“The Nrf2-Keap1 signaling pathway and the endogenous antioxidant response.”

Feb. 2007 Biodesign Institute, Arizona State University, Tempe, Arizona, US.

“The Nrf2-Keap1 signaling pathway and the endogenous antioxidant response”

Nov. 2006 Biological Chemistry Graduate Program, Tucson, Arizona, US.

“The Nrf2 signaling pathway.”

Oct. 2006 National Institute of Environmental Health Science

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

Sep. 2006 Cancer Biology Graduate Program, Arizona Cancer Center, Tucson, Arizone, US.

“The Nrf2/Keap1 signaling pathway.”

Sep. 2006 Superfund Colloquium, Tucson, Arizona, US

“The protective role of Nrf2 in arsenic-induced toxicity and carcinogenicity.”

**PROFESSIONAL SOCIETIES**

1996-present Society of Toxicology

**GRANT SUPPORT**

**Ongoing Research Support:**

02/01/2014-10/31/2018

*R01 ES023758, NIH/NCI*

“Stress response, p97, and Nrf2 in arsenic-mediated toxicity”

**MPI:** Eli Chapman/Donna D. Zhang

***Objective:*** The goal of this appreciation is to establish the biochemical mechanism of arsenic-mediated deregulation of p97, define the detailed cellular mechanism of arsenic-mediated Nrf2 activation, and the effects of arsenic on cellular stress responses *in vivo* using murine models to dissect the mechanistic interplay between arsenic, p97, autophagy, and Nrf2.

07/01/2016-06/30/2021

*1R01 ES026845,* *NIH/NIEHS*

“Nrf2, autophagy, and arsenic carcinogenesis”

**PI:** Donna D. Zhang

***Objective:*** We propose to investigate the detailed mechanism by which arsenic causes

lung cancer. In turn, this will allow us to identify markers of exposure to identify populations at risk of developing arsenic-induced lung cancer as well as to develop tailored therapies for the individuals who have already developed arsenic-induced lung cancer.

07/15/2016-06/30/2020

*1R01 DK109555,* *NIH/NIDDK*

“Arsenic, Nrf2 and Autophagy Dysfunction in Type II Diabetes”

**PI:** Donna D. Zhang

***Objective:*** Our goal for this project is to investigate the molecular mechanisms by which arsenic alters the proteotoxic and oxidative stress responses to determine if these alterations aid to the onset and progression of diabetes using cell lines and a high fat-induced type II diabetes mouse model.

07/01/2017-12/30/2019

*2P42 ES004940-28* *NIH/NIEHS*

Superfund Hazardous Substance Research and Training Program

**Center Director:** Raina Margaret Maier

**Project 5 PI:** Donna Zhang

***Objective:*** Chronic exposure to metal-containing dusts in sites near mine tailings and smelters is both an occupational and public health problem that has been associated with an increased risk of developing lung diseases. This project focuses on determining the protective role of Nrf2 in maintaining airway epithelial barrier integrity in response to dust particles.

**Completed Research Support:**

09/01/2006-01/31/2017

*R01 ES015010,* *NIH/NIEHS*

“The Protective Role of Nrf2 against Arsenic-Induced Toxicity and Carcinogenicity”

**PI:** Donna D. Zhang

***Objective:*** The major goals of this project are to define the protection of the transcription factor Nrf2 against arsenic-induced toxicity and carcinogenicity

08/15/2011-05/31/2017

*R01 CA154377, NIH/NCI*

“Investigation of an anti-cancer phytochemical targeting Nrf2”

**PI:** Donna D. Zhang

***Objective:*** The goal of the proposed research is to characterize the anti-cancer properties of brusatol, an inhibitor of the Nrf2 pathway, using a preclinical lung cancer model and delineate the molecular targets and mechanistic actions of brusatol.

07/01/2007-06/30/2012

*RSG-07-154-01-CNE, American Cancer Society*

“Regulation of the Transcription Factor Nrf2 by Chemopreventive Compounds”

**PI:** Donna D. Zhang

***Objective:*** The major goals of this project are to define the mechanism of Nrf2 regulation in response to the treatment of chemopreventive compounds

01/01/2013-12/31/2014

*R21 CA166926,* *NIH/NCI*

“Targeting colorectal carcinogenesis using a cinnamon-derived food factor”

**MPI:** Donna D. Zhang / Georg T. Wondrak

***Objective:*** This project is to test the overall hypothesis that the cinnamon-derived food factor cinnamaldehyde represents a potent chemopreventive dietary factor targeting colorectal carcinogenesis through modulation of Nrf2-orchestrated cytoprotective mechanisms.