

BIOGRAPHICAL SKETCH

NAME Mark A. Nelson		POSITION TITLE Professor	
eRA COMMONS USER NAME mnelson			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Washington State University, Pullman, WA	BS	1984	Microbiology
Washington State University, Pullman, WA	PhD	1989	Pharm/Toxicology

A. Personal Statement

Dr. Nelson has over 20 years of biomedical research experience. He has been a member of the SWEHSC center and Arizona Cancer Center since 1998. Dr. Nelson is the former Director of Research for the Department of Pathology. Dr. Nelson's research focuses on three main areas: (i) inflammation and tumor progression/metastasis, (ii) racial disparities and cancer, (iii) molecular diagnosis of cancer and other genetic diseases. Relevant to the proposed studies is recent work by Drs. Nelson and Vanderah which demonstrate that CB2 receptor agonist can suppress bone pain, bone loss, and reduce pro-inflammatory cytokines. Here we will determine if a CB2 agonist can inhibit oxaliplatin-induced neuropathic pain in preparation for a new investigator-initiated clinical trial with this agent. His research has been supported by NIH/NCI programs for over 18 years. Dr. Nelson conceived and developed the proposed research experiments in this grant application.

B. Positions and Honors**Professional Experience**

1985-1989	Graduate Research Assistant, Washington State University, College of Pharmacy, Pharmacology/Toxicology Program, Pullman, WA
1989-1992	Research Associate Scientist, The University of Arizona, College of Pharmacy, Department of Pharmacology/Toxicology, Arizona Cancer Center, Department of Radiation Oncology
1989-1993	Research Assistant Professor, The University of Arizona, Department of Pathology
1997-2001	Assistant Professor, The University of Arizona, Department of Pathology
1998-2000	Co-Program Leader, Environmental Carcinogenesis Program, Center for Toxicology, Southwest Environmental Health Science Center, The University of Arizona
2002-2005	Associate Professor, The University of Arizona, Department of Pathology
2004-2010	Director of Research, The University of Arizona, Department of Pathology
2005-present	Professor, The University of Arizona, Department of Pathology

Honors

1991-1992	National Institute of Environmental Health Service Fellowship Recipient, National Research Service Award
1993	Richard C. Devereaux Outstanding Young Investigator Award, Cancer Research Foundation of America
1995-1996	FIRST (First Independent Research Support and Transition) Award NIH
2001-2004	Member, Molecular Biology Study Section, Department of Defense
2000-2003	Member, Pathology B Study Section, National Institutes of Health
2002-2003	Member, AACR-HBCU Faculty Scholar Award Committee
2003	Dr. Martin Luther King, Jr., Distinguished Leadership Award, University of Arizona
2002-present	Executive Member, Arizona Cancer Center G.I. Program
2003-2005	Member, Tumor Progression and Metastasis Study Section, National Institutes of Health
2003-2007	Scientific Consultant, Wistar Institute
2007- 2009	Member, Subcommittee F, Manpower and Training, NIH/NIC

C. Selected Publications: 11 of 80

1. Cherukuri DP, Chen XB, Goulet AC, Young RN, Han Y, Heimark RL, Regan JW, Meuillet E, *Nelson MA*. The EP4 receptor antagonist, L-161,982, blocks prostaglandin E2-induced signal transduction and cell proliferation in HCA-7 colon cancer cells. *Exp Cell Res*. 313(14):2969-79, 2007. PMID: PMC2706013
2. Watts GS, Tran NL, Berens ME, Bhattacharyya AK, **Nelson MA**, Montgomery EA, Sampliner RE. Identification of Fn14/TWEAK receptor as a potential therapeutic target in esophageal adenocarcinoma. *Int J Cancer*. 121(10):2132-9, 2007
3. Doldan A, Chandramouli A, Shanas R, Bhattacharyya A, Leong SP, **Nelson MA**, Shi J. Loss of the eukaryotic initiation factor 3f in melanoma. *Mol Carcinog*. 2008 Oct;47(10):806-13. PMID: PMC2635928
4. Doldan A, Chandramouli A, Shanas R, Bhattacharyya A, Cunningham JT, **Nelson MA**, Shi J. Loss of the eukaryotic initiation factor 3f in pancreatic cancer. *Mol Carcinog* 47(3):235-44, 2008. PMID: PMC2568992
5. Shi J, Hershey JW, **Nelson MA**. Phosphorylation of the eukaryotic initiation factor 3f by cyclin-dependent kinase 11 during apoptosis. *FEBS Lett* 583(6):971-7, 2009. PMID: PMC2666973
6. Goulet AC, Watts G, Lord JL, **Nelson MA**. Profiling of selenomethionine responsive genes in colon cancer by microarray analysis. *Cancer Biol Ther* 6(4):494-503, 2007
7. Jin Z, Cheng Y, Gu W, Zheng Y, Sato F, Mori Y, Olaru AV, Paun BC, Yang J, Kan T, Ito T, Hamilton JP, Selaru FM, Agarwal R, David S, Abraham JM, Wolfsen HC, Wallace MB, Shaheen NJ, Washington K, Wang J, Canto MI, Bhattacharyya A, **Nelson MA**, Wagner PD, Romero Y, Wang KK, Feng Z, Sampliner RE, Meltzer SJ. A multicenter, double-blinded validation study of methylation biomarkers for progression prediction in Barrett's esophagus. *Cancer Res* 69(10):4112-5, 2009. PMID: PMC2752375
8. Zhou R, Shanas R, **Nelson MA**, Bhattacharyya A, Shi J. Increased expression of the heterogeneous nuclear ribonucleoprotein K in pancreatic cancer and its association with the mutant p53. *Int J Cancer* 126(2):395-404, 2010. PMID: PMC2795109
9. Chandramouli A, Mercado-Pimentel ME, Hutchinson A, Gibadulinová A, Olson ER, Dickinson S, Shañas R, Davenport J, Owens J, Bhattacharyya AK, Regan JW, Pastorekova S, Arumugam T, Logsdon CD, **Nelson MA**. The induction of S100p expression by the Prostaglandin E₂ (PGE₂)/EP4 receptor signaling pathway in colon cancer cells. *Cancer Biol Ther* 10(10):1056-66, 2010. PMID: PMC3047097
10. Chandramouli A, Onyeagucha BC, Mercado-Pimentel ME, Stankova L, Shahin NA, LaFleur BJ, Heimark RL, Bhattacharyya AK, **Nelson MA**. MicroRNA-101 (miR-101) post-transcriptionally regulates the expression of EP4 receptor in colon cancers. *Cancer Biol Ther* 13(3):175-83, 2012. PMID: PMC3336073
11. Onyeagucha BC, Mercado-Pimentel ME, Hutchison J, Flemington EK, **Nelson MA**. S100P/RAGE signaling regulates microRNA-155 expression via AP-1 activation in colon cancer. *Exp Cell Res* 319(13):2081-90, 2013. PMID: PMC3726211

D. RESEARCH SUPPORT**Ongoing**

S12-335 (Nelson, PI)

07/01/13 – 06/31/13

NIH/NCI SAIC Frederick, Inc. TCGA

Tissues Source Site (TSS) in support of the Cancer Genome Atlas Program (TCGA)

The primary purpose of this project is to establish the University of Arizona as a participating Tissue Source Site (TSS) for the Cancer Genome Atlas (TCGA).

R01 CA142115 (Vanderah, PI)

03/01/10 - 01/31/15

NIH/NCI

Recovery Act Limited Competition: NIH Challenge Grants in Health and Science Research (RC1)

Role: Co-investigator

The goal of this project is determine the efficacy of cannabinoid receptor 2 agonist against breast cancer induced bone pain.

Completed

P50 CA-95060 (Gerner, PI)

09/5/02 – 03/31/12

NIH/NCI

SPORE in Gastrointestinal Cancer

Research Supplements to Promote Diversity in Health-Related Research

Role: Co-investigator

This Specialized Program of Research Excellence (SPORE) is a grant emphasizing translational research in gastrointestinal cancer. Projects on the GI SPORE focus on cancers of the colon, esophagus and pancreas and address topics in GI cancer screening, prevention and treatment.

P50 CA-95060 (Nelson, PI)

09/5/02 – 03/31/12

NIH/NCI

Developmental Project

SPORE in Gastrointestinal Cancer

Research Supplements to Promote Diversity in Health-Related Research

Role: Principal Investigator

The translational goal of this project is to demonstrate that specific therapeutic intervention of PGE₂/EP4 receptor signaling represents an alternative strategy to COX-2 inhibition for the treatment and prevention of colorectal preneoplastic lesions.

P50 CA-95060 (Gerner, PI)

04/5/10 – 03/31/12

NIH/NCI

SPORE in Gastrointestinal Cancer-Research Supplement to Promote Diversity

Research Project Grant (Parent R01)

Role: Mentor for Dr. Melania Mercado-Pimentel

The goal of this project is to identify targets down-stream in the S100P/RAGE signaling pathway using micro-array based techniques.