BIOGRAPHICAL SKETCH

NAME Jennifer S. Pollock, PhD	POSITION TITLE Professor
eRA COMMONS USER NAME jpollock	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Evansville, Evansville, IN	BS	1975-79	Biology/Chemistry
University of Cincinnati, Cincinnati, OH	MS	1981-83	Chemistry
University of North Carolina, Chapel Hill, NC	PhD	1983-87	Biological Chemistry
Children's Hospital/Harvard Med. Sch, Boston.MA	Post-Doc	1988-89	Biochem/Cell Biology
Abbott Laboratories, Abbott Park, IL	Post-Doc	1989-91	Pharm/Mol Bio/Cell Bio

A. Personal Statement

Dr. Pollock's research career has solely been involved in cardiovascular research. She began her graduate work with structure-function analysis of prothrombin and classical training as a protein biochemist. Dr. Pollock's postdoctoral training with Dr. Ferid Murad, 1998 Nobel Laureate, involved the initial purification and characterization of NO synthase and provided the basis of her enduring research focus. Her laboratory focuses on the vasculature and renal pathways deranged in hypertension, early life stress, and sickle cell disease. For the last 10 years, Dr. Pollock's laboratory has been instrumental in determining the influence of early life stress on the NO and ET pathways in cardiovascular and renal disease in rodent models. For the last 20 years, Dr. Pollock has focused on elucidating the mechanisms of the NOS/NO pathway on natriuresis. Dr. Pollock's recent work is involved in the role of the endothelin and NO pathway in diabetic and sickle cell nephropathy. Dr. Pollock was appointed the University System of Georgia MD/PhD Program Director in October 2010. In January 2014, Dr. Pollock relocated to the University of Alabama at Birmingham where she is a Professor, Endowed Scholar in the Division of Nephrology, Co-Director of Cardio-Renal Physiology & Medicine Section, Associate Director of the Center for Free Radical Biology, and member of the Steering committee for the MSTP training grant and MD/PhD program. She has trained over 75 undergraduate, medical, and graduate students as well as post-doctoral fellows during her academic career.

B. Positions and Honors

1992-95	Senior Scientist, Signal Transduction Laboratory, New Lead Discovery, Pharmaceutical Products Division, Abbott Laboratories
1993-95	Adjunct Associate Professor, Dept. Physiology & Biophysics, Univ. of Illinois School of Medicine, Chicago, IL
1995-2001	Assistant Professor, Medical College of Georgia, Georgia Regents University
2001-2005	Associate Professor with tenure, Medical College of Georgia, Georgia Regents University
2005-2013	Professor with tenure, Medical College of Georgia, Georgia Regents University
2008-2013	Weiss Professor, Medical College of Georgia, Georgia Regents University
2010-2013	University System of Georgia MD/PhD Program Director, Georgia Regents University
2014-present	Professor and Endowed Scholar, Div of Nephrology, University of Alabama at Birmingham
2014-present	Co-director, Cardio-Renal Physiology & Medicine
2014-present	Associate Director, Center for Free Radical Biology
2014-present	Member of MSTP Steering Committee for UAB MD/PhD program

Awards and Other Professional Activities

1989-91	NIH Individual NRSA "EDRF-forming enzyme: Purification and characterization"
1992-2013	NHLBI and NIDDK Grant Review Study Sections, Ad hoc reviewer for SCOR, PPG, RFA Applications
1993	Citation in The Scientist (Oct 4, 1993), p. 16 "Hot Papers-Cell Biology" for a highly cited paper within the first year of publication
1996-2004	Study Section Reviewer for Vascular Wall committee, National American Heart Association
1998	Co-Chair, American Physiological Society Fall Conference, "Endothelial Regulation of Vascular Tone: Molecular to Integrative Physiology"
1998-2002	Study Section Reviewer for VW2 Southern Research Consortium, American Heart Association
1998-2010	Member of the Editorial Board for *Vascular Pharmacology*
2002-present	Member of the Editorial Board for *American Journal of Physiology: Reg Comp Integr Physiology*
2000-present	Fellow, American Heart Assn. Council for High Blood Pressure Research
2003-2004	Co-Chair, VW2 for Southern Research Consortium, American Heart Association
2003	Co-Chair, American Physiological Society Fall Conference, "Understanding Renal and Cardiovascular Disease through Physiological Genomics"
2003	Medical College of Georgia Distinguished Research Award, School of Graduate Studies
2004-present	Member of the Editorial Board for *Hypertension*
2004-present	Member of the Editorial Board for *Nitric Oxide*
2004	Medical College of Georgia Outstanding Faculty Award, School of Graduate Studies
2004-2006	Member of the American Heart Assn. Scientific Sessions Program Committee
2005-2006	Chair, VW2 for Southern Research Consortium, American Heart Association
2006-2008	Chair for Biotechnology & Bioengineering study section, National Am. Heart Association
2006	Organizing Committee, International Conference on the Biology, Chemistry, and Therapeutic Applications of Nitric Oxide
2006	Medical College of Georgia Distinguished Faculty Award for Basic Science Research, School of Medicine
2008	Student Choice Seminar Speaker at Univ of Arkansas, Little Rock
2008-2013	Weiss Professor, Medical College of Georgia
2008-2013	Georgia Regents Research Institute Board of Directors, Elected Faculty Rep
2011-present	Chair, Water Electrolyte Homeostasis Section, American Physiological Society
2009-present	Co-Chair University of Evansville Science Advisory Council
2010-present	Member of the Editorial Board for *American Journal of Physiology: Renal*
2010-2012	Member, National American Heart Assn. Research Committee
2010	Medical College of Georgia Distinguished Teacher Award, School of Graduate Studies
2011-2014	Member, American Heart Assn. Established Investigator study section
2012-2013	Member, American Heart Assn. Biotechnology & Bioengineering study section

C. Selected peer-reviewed publications (of >170 total publications)

1. Loria, A.S., D.M. Pollock, J.S. Pollock. Early life stress sensitizes rats to angiotensin II-induced hypertension and vascular inflammation in adult life. Hypertension, 55: 494-9, 2010. PMC2829259.
2. D'Angelo G, Loria AS, Pollock DM, Pollock JS. Endothelin activation of reactive oxygen species mediates stress-induced pressor response in Dahl salt-sensitive prehypertensive rats. Hypertension. 2010 56(2):282-9. PMC2921634.
3. Schneider MP, Sullivan JC, Wach PF, Boesen EI, Yamamoto T, Fukai T, Harrison DG, Pollock DM, Pollock JS. Protective role of extracellular superoxide dismutase in renal ischemia/reperfusion injury. Kidney Int. 2010 78(4):374-81. PMC3888358.
4. Loria AS, D'Angelo G, Pollock DM, Pollock JS. Early life stress downregulates endothelin receptor expression and enhances acute stress-mediated blood pressure responses in adult rats. Am J Physiol Regul Integr Comp Physiol. 2010 299(1):R185-91. PMC2904153.

5. Boesen, E.I., Krishnan, K., J.S. Pollock, D.M. Pollock. ET_A receptor mediates angiotensin II-induced infiltration of renal cortical T cells. J. Am Soc Nephrol, 22: 2187-92, 2011. PMC3250204.
6. Kang KT, Sullivan JC, Spradley FT, d'Uscio LV, Katusic ZS, Pollock JS. Antihypertensive therapy increases tetrahydrobiopterin levels and NO/cGMP signaling in small arteries of angiotensin II-infused hypertensive rats. Am J Physiol Heart Circ Physiol. 300(3):H718-24, 2011. PMC3064310.
7. Loria AS, Kang KT, Pollock DM, Pollock JS. Early life stress enhances angiotensin II-mediated vasoconstriction by reduced endothelial nitric oxide buffering capacity. Hypertension. 2011 58(4):619-26. PMC3754790.
8. Xu X, Su S, Barnes VA, De Miguel C, Pollock J, Ownby D, Shi H, Zhu H, Snieder H, Wang X. A genome-wide methylation study on obesity: differential variability and differential methylation. Epigenetics. 2013 May;8(5):522-33. PMC3741222.
9. Loria AS, Yamamoto T, Pollock DM, Pollock JS. Early life stress induces renal dysfunction in adult male rats but not female rats. Am J Physiol Regul Integr Comp Physiol. 2013 15;304(2):R121-9. PMC3543658.
10. Hyndman KA, Boesen EI, Elmarakby AA, Brands MW, Huang P, Kohan DE, Pollock DM, Pollock JS. Renal collecting duct NOS1 maintains fluid-electrolyte homeostasis and blood pressure. Hypertension. 2013 Jul;62(1):91-8. PMC3901402.
11. Loria AS, Brands MW, Pollock DM, Pollock JS. Early life stress sensitizes the renal and systemic sympathetic system in rats. Am J Physiol Renal Physiol. 2013 305(3):F390-5. PMC3742864.
12. Loria AS, Ho DH, Pollock JS. A mechanistic look at the effects of adversity early in life on cardiovascular disease risk during adulthood. Acta Physiol (Oxf). 2013 Oct 29. PMC4105322.
13. Spradley FT, De Miguel C, Hobbs J, Pollock DM, Pollock JS. Mycophenolate mofetil prevents high-fat diet-induced hypertension and renal glomerular injury in Dahl SS rats. Physiol Rep. 2013 Nov;1(6):e00137. PMC3871452.
14. Hyndman KA, Ho DH, Sega MF, Pollock JS. Histone deacetylase 1 reduces NO production in endothelial cells via lysine deacetylation of NO synthase 3. Am J Physiol Heart Circ Physiol. 2014 in press, PMID: 25015965.
15. Su S, Wang X, Kapuku GK, Treiber FA, Pollock DM, Harshfield GA, McCall WV, Pollock JS. Adverse childhood experiences are associated with detrimental hemodynamics and elevated circulating endothelin-1 in adolescents and young adults. Hypertension. 2014 64(1):201-7 PMC4057352.

D. Research Support

<u>Active Research Support</u>

P01 HL69999 Pollock J (Project 2 Leader and Core B Leader) 7/1/14—6/30/19
NIH/NHLBI
Stress Related Mechanisms of Hypertension Risk, Project 2: Early life stress mediated endothelial dysfunction
The overall goal of this program project is to determine the stress-mediated effects on hypertension risk. Project 2 specifically deals with stress activation of endothelium during early life and the consequences during adulthood for disease risk. (Harshfield, G PPG PI)
Role: Project 2 Leader and Core B Leader

P01 HL95499 Pollock J (Project 3 Leader and Core B Leader) 8/6/10—4/30/15
Endothelin Control of Renal Hemodynamic and Excretory Function, Project 3: ET-dependent NOS activation in the kidney
The overall goal of these studies is to elucidate the physiological actions of ET-1 using approaches ranging from the gene to whole animal models to explore the pathways of ET-1 activity in the kidney to facilitate sodium excretion with resulting effects on blood pressure regulation. Project 3 specifically focuses on the interaction of the ET-1 and NO pathways in the collecting duct. (Pollock D, PPG PI)
Role: Project 3 Leader and Core B Leader

R01 HL98135 Inscho, EW (PI) 1/4/10 – 12/31/14

NIH/NHLBI
The Inflammatory Cytokines, MCP-1 and TGF-beta, Mediate Renal Autoregulatory Impairment in Angiotensin II-infused Hypertension
The goal of these studies will directly elucidate the mechanism of MCP-1 and TGF-beta in renal autoregulation in hypertension.
Role: Co-Investigator

U01 HL117684 Kutlar, A; Meiler, S; Pollock, D (Co-PIs) 9/1/13 – 8/30/18
NIH/NHLBI
The role of endothelin-1 in sickle cell disease
The goal of these studies will directly evaluate the therapeutic potential of ETA selective antagonists in humans with sickle cell disease and mouse models of sickle cell disease.
Role: Co-Investigator

Completed Research Support

Pilot Studies Research Project 10/1/11—9/30/12
Pollock J (Co-PI)
Endothelin and Diabetic Renal Disease
These studies are focused on determining the role of ER stress, the endothelin pathway, and diabetic nephropathy. This is funded by the Intramural Grants Program at GHSU.

Diabetes and Obesity Synergy Award 4/1/11—3/31/12
Pollock J (PI)
Intramural seed grant to promote collaborations between clinical and basic science faculty to generate preliminary data to initiate extramurally funded grants. This award funds a collaborative project related to identifying T cell activation markers in lean and obese African-American youth. This is funded by the Diabetes and Obesity Discovery Institute at GHSU.

R01 DK44628 Inscho, EW (PI) 3/1/08 – 2/28/12
NIH/NIDDK
Purinergic regulation of the renal microvasculature
The hypothesis to be tested states that tubuloglomerular mediated, afferent arteriolar vasoconstriction involves activation of A1 receptors. The goal of these studies will directly examine the mechanisms of renal microvasculature auto-regulatory control.
Role: Co-Investigator

R01 HL60653-09 Pollock J (PI) 7/1/09—6/30/11
NIH/NHLBI
Nitric Oxide Synthase Isoforms in the Kidney
The overall goal of these studies is to determine the role of the alternative splice variants of NOS1 in the collecting duct of the kidney. The central hypothesis states that NOS1beta is a critical regulator of sodium excretion in the kidney.
Role: PI

P01 HL74167 Pollock, J (Project 4 Co-Investigator and Core C Leader) 5/1/04 – 4/30/09
NIH/NHLBI
Cytokines and angiotensin II-induced hypertension
The central theme of this program project grant is to elucidate the role of cytokines in vascular disease. Cytokines such as IL-6, IL-1, and TNF, may contribute to blood pressure development or they may have a compensatory effect to lower blood pressure. (Webb, RC PPG PI)

Role: Project 4 Co-Investigator and Core C Leader

0440073N Established Investigator Award Pollock J (PI) 1/1/04 – 12/31/08
American Heart Association
Regulation of vascular nitric oxide synthase 1 in normotensive and hypertensive arteries
The main purpose of the goals of this Award application are to determine the mechanisms of how NOS 1 is regulated (tyrosine phosphorylation/dephosphorylation events and/or protein:protein interactions) in the smooth muscle and the functional significance of NOS 1 in endothelium-independent normotensive and hypertensive arteries.
Role: PI