

Nathalie Hill-Kapturczak
Curriculum Vitae

Education:

Ph.D. in Biomedical Science: Health and Environmental Chemistry: December 1993
Oakland University, Rochester, Michigan
Thesis Advisor: Professor T. Malinski
Dissertation Title: "Electrochemical and Spectroscopic Measurements
in Cellular Systems"
B.S. in Chemistry: June 1987
Oakland University, Rochester, Michigan

Grant Awards:

NIH (NIDDK) R01 Award
Principal Investigator: Nathalie Hill-Kapturczak
06/15/2006 – 3/31/2009 (changed career path 5/1/08)
Total Cost: \$654,750
AHA Southeast Affiliate Grant-in-Aid
Principal Investigator: Nathalie Hill-Kapturczak
07/01/05-09/30/07 (3 months no cost extension)
Total costs: \$154,000
NIH Pilot and Feasibility Grant as part of a UAB PKD P30
Principal Investigator: Nathalie Hill-Kapturczak
10/01/05-08/31/06
Total costs: \$70,000
NIH (NIDDK) Mentored Research Scientist Development Award
Principal Investigator: Nathalie Hill-Kapturczak
01/01/2002 – 12/31/2005 (1 year no cost extension)
Total Cost: \$272,532

Research Focus:

To expand my research scope and apply molecular biology to more clinically-relevant areas

Professional Experience:

Research Scientist: May 2008-Present
Department of Psychiatry, School of Medicine
University of Texas Health Science Center at San Antonio, San Antonio, Texas
Assistant Professor: November 2003-April 2008
Department of Medicine; Division of Nephrology
University of Alabama at Birmingham, Birmingham, Alabama
Research Assistant Professor: January 2002-November 2003
Department of Medicine; Division of Nephrology, Hypertension and Transplantation
University of Florida, Gainesville, Florida
Postdoctoral Research Fellow: August 1995-December 2001
Department of Medicine; Division of Nephrology, Hypertension and Transplantation
University of Florida, Gainesville, Florida
Research Associate: November 1994-July 1995
Department of Medicine/Nephrology
University of Dresden, Dresden, Germany
Research Associate: February 1994-November 1994
Department of Medicine/Nephrology
Free University of Berlin, Berlin, Germany

Research Assistant: June 1987-December 1993

Department of Chemistry
Oakland University, Rochester, Michigan

Teaching Assistant: June 1988-June 1993

Analytical Chemistry Lab and Introduction to Organic Chemistry Lab
Department of Chemistry
Oakland University, Rochester, Michigan

Professional Societies:

Associate member in the American Society of Nephrology: 1996-2008
American Chemical Society: 1993-2000

Research Center Memberships:

Nephrology Research Training Center: Oct 2003-April 2008
University of Alabama, Birmingham, Alabama

Center for Free Radical Biology: Oct 2003- April 2008
University of Alabama, Birmingham, Alabama

Cell Adhesion & Matrix Research Center: June 2004- April 2008
University of Alabama, Birmingham, Alabama

Gene Therapy Center: Dec 2005- April 2008

Other Professional Activities:

Managing Editor for Encyclopedia of Research Design (Sage Publications)

Serve on AHA Peer Review Committee

Ad hoc Reviewer: Free Radical Biology and Medicine

Ad hoc Reviewer: American Journal of Physiology: Heart and Circulatory Physiology

Ad hoc Reviewer: Journal of the American Society of Nephrology

Judge: UAB Department of Medicine Postdoctoral Research Day

Presentations:

Methods of nitric oxide detection. Nephrology research seminar series, University of Florida, Gainesville, FL, November 1995

Angiotensin II and endothelium-dependent vascular regulation: the role of nitric oxide. Nephrology research seminar series, University of Florida, Gainesville, FL, November 1996

Angiotensin II and endothelium-dependent vascular regulation: the role of nitric oxide. Annual meeting of the Southern Salt, Water and Kidney Club. Sarasota, FL, December 1996

A novel carbon monoxide sensor for biological measurements. Annual meeting of the Southern Salt, Water and Kidney Club. Sarasota, FL, December 1997

HO-1 and mRNA stability. Nephrology research seminar series, University of Florida, Gainesville, FL, December 1999

Curcumin induces heme oxygenase-1 gene expression in human renal proximal tubule cells: Involvement of NF- κ B. Annual meeting of the Southern Salt, Water and Kidney Club. Sarasota, FL, December 2000

Curcumin induces heme oxygenase-1 gene expression in human renal proximal tubule cells: Involvement of NF- κ B. Nephrology research seminar series, University of Florida, Gainesville, FL, May 2002

Identification of a cis-acting region that regulates oxidized lipid-mediated induction of the human heme oxygenase-1 gene in endothelial cells. Annual meeting of the Southern Salt, Water and Kidney club. Sarasota, FL, December 2002

Identification of an internal enhancer that regulates heme-mediated human heme oxygenase-1 gene expression. Annual meeting of the Southern Salt, Water and Kidney Club. Sarasota, FL, December 2003

Heme oxygenase-1 gene regulation by transforming growth factor- β . Center for Free Radical Biology Seminar Series, University of Alabama at Birmingham, AL, April 2004

Heme oxygenase-1 gene expression by transforming growth factor- β . Annual meeting of the Southern Salt, Water and Kidney Club. Sarasota, FL, December 2004

Heme Oxygenase-1 gene expression by transforming growth factor- β . Nephrology Research Training Seminar, University of Alabama at Birmingham, Birmingham, AL, February 14, 2005

Sp1-like sequences mediate heme oxygenase-1 induction by transforming growth factor-beta in renal proximal tubular cells. Annual meeting of the Southern Salt, Water and Kidney Club. Sarasota, FL, December 2005

Heme oxygenase-1 expression by transforming growth factor- β : Implications for renal fibrosis. Center for Free Radical Biology Seminar Series, University of Alabama at Birmingham, AL, February 2006

Heme Oxygenase-1 and Transforming Growth Factor- β 1 in Polycystic Kidney Disease. Autosomal Recessive Polycystic Kidney Disease Core Center Seminar Series, University of Alabama at Birmingham, AL, December 15, 2006

Heme Oxygenase-1 and Transforming Growth Factor- β 1 in Polycystic Kidney Disease. Autosomal Recessive Polycystic Kidney Disease Core Center Annual Scientific Retreat, University of Alabama at Birmingham, AL, May 11, 2007

Heme oxygenase-1 expression by transforming growth factor- β : Implications for renal fibrosis. Nephrology Research Training Seminar, University of Alabama at Birmingham, Birmingham, AL, January 14, 2008

Publications

Original Articles:

1. F. Bailey, **N. Hill**, F. Kiechle, T. Malinski. Changes in Membrane Potential of Intact Adipocytes Measured with Fluorescent Dyes. *Bioelectrochem Bioenerg.* 21: 333, 1989.
2. T. Malinski, **N. Hill**, A. Ciszewski, F. Kiechle. AC Impedance Measurements of Charge Propagation in BC3H-1 Myocytes Grown Directly on a Semiconductor Electrode: Effect of Insulin and Vanadate. *J Bioelectricity.* 8: 189, 1989.
3. T. Malinski, A. Ciszewski, **N. Hill**, T. Wedrychowich, F. Bailey, D. Dandurand, F. Kiechle. Impedance and Amperometric Techniques in the study of Immobilized Cells Grown Directly on Semiconductor Electrodes. in Physiology of Immobilized Cells (J De Bont ed.), Elsevier Publ. Pp. 677-684, 1990.
4. F. Kiechle, F. Bailey, **N. Hill**, T. Malinski. Membrane Potential of Rat Adipocytes: Effects of Phospholipase C, Concanavalin A, and Adenosine. *Annals of Clinical and Laboratory Science.* Vol. 24, No. 2, 164, 1994.
5. **N. Hill**, B. Pierchala, A. Johns, F. Kiechle, G.M. Rubanyi, T. Malinski. *In Situ* Measurements of Nitric Oxide Release from Endothelial Cells Grown Directly on a Porphyrinic Sensor. *Endothelium.* Vol. 4: 63 – 69, 1996.

6. **N. Hill-Kapturczak**, M.H. Kapturczak, E.R., Block, J.M. Patel, T. Malinski, K.M. Madsen, C.C. Tisher. Angiotensin II-Stimulated Nitric Oxide Release from Porcine Pulmonary Endothelium is Mediated by Angiotensin IV. *J Am Soc Nephrol.* 10: 481–491, 1999.
7. **N. Hill-Kapturczak**, L.B. Truong, V. Thamilselvan, G.A. Visner, H.S. Nick, A. Agarwal. Smad7-dependent Regulation of Heme Oxygenase-1 by Transforming Growth Factor- β in Human Renal Epithelial Cells. *J Biol Chem.* 275: 40904-40909, 2000.
8. **N. Hill-Kapturczak**, V. Thamilselvan, F.Y. Liu, H.S. Nick, A. Agarwal. Mechanism of Heme Oxygenase-1 gene Induction by Curcumin in Human Renal Proximal Tubule Cells. *Am J Physiol Renal Physiol.* 281: F851-F859, 2001.
9. **N. Hill-Kapturczak**, E. Sikorski, C. Voakes, J. Garcia, H.S. Nick, A. Agarwal. An internal enhancer regulates heme and cadmium-mediated induction of human heme oxygenase-1. *Am J Physiology, Renal.* 285:F515-F523, 2003.
10. **N. Hill-Kapturczak**, C. Voakes, J. Garcia, G. Visner, H.S. Nick, A. Agarwal. A cis-acting region regulates oxidized lipid-mediated induction of the human heme oxygenase-1 gene in endothelial cells. *Arteriosclerosis, Thrombosis and Vascular Biology.* 23: 1416-1422, 2003.
11. K. Liby, T.D. Hock, M.M. Yore, N. Suh, A.E. Place, R. Risingsong, C. Williams, T. Honda, Y. Honda, G.W. Gribble, V.R.C. Gadiseti, **N. Hill-Kapturczak**, A. Agarwal, M.B. Sporn. The synthetic triterpenoids, CDDO and CDDO-Imidazolide, are potent inducers of heme oxygenase-1 and the Nrf2/ARE signaling. *Cancer Research.* 65:4789-4798, 2005.
12. A. Mark, T. Hock, M.H. Kapturczak, A. Agarwal, **N. Hill-Kapturczak**. Induction of heme oxygenase-1 modulates the profibrotic effects of transforming growth factor- β in human renal tubular epithelial cells. *Cellular and Molecular Biology (Noisy-le-grand).* 51(4):357-362, 2005.
13. **N. Hill-Kapturczak**, A. Agarwal. Carbon monoxide: from silent killer to potential remedy. Editorial Focus. *Am J Physiology, Renal.* 290:F787-F788, 2006.
14. J. Deshane, S. Chen, S. Caballero, H. Was, A. Grochot-Przeczek, R. Lach, **N. Hill-Kapturczak**, G. P. Siegal, J. Dulak, A. Jozkowicz, M.B. Grant, A. Agarwal. Stromal cell-derived factor-1 promotes angiogenesis via a heme oxygenase-1 dependent mechanism. *A J Exp Med*, 204:605-618, 2007
15. **N. Hill-Kapturczak** and A. Agarwal. Heme oxygenase-1, a culprit in vascular and renal damage? Editorial comment. *Nephrol Dial Transplant.* 22(6):1495-1499, 2007
16. A. Traylor, T. Hock, **N. Hill-Kapturczak**. Specificity protein 1 and Smad-dependent regulation of human heme oxygenase-1 gene by transforming growth factor- β 1 in renal epithelial cells. *Am J Physiology, Renal.* 293(3):F885-F894, 2007.
17. J.-H. Kie, A. Traylor, A. Agarwal, M. Kapturczak, **N. Hill-Kapturczak**. Heme oxygenase-1 deficiency exacerbates epithelial-mesenchymal transition and renal fibrosis. *J Am Soc Nephrol*, In Press.

Review articles:

1. **N. Hill-Kapturczak**, M. Kapturczak, T. Malinski, P. Gross. Nitric Oxide and Nitric Oxide Synthase in the Kidney: Potential Roles in Normal Renal Function and in Renal Dysfunction. *Endothelium.* Vol. 3 (No. 4): 253-299, 1995.

2. A. Agarwal, **N. Hill-Kapturczak**, H.S. Nick. Heme oxygenase, Inflammation and Atherosclerosis. *Inflammatory and Infectious Basis of Atherosclerosis*. 141-158, 2001.
3. **N. Hill-Kapturczak**, S.H. Chang, A. Agarwal. Heme oxygenase and the Kidney. *DNA and Cell Biology*. Vol. 21 (No. 4), 307-321, 2002.
4. E.M. Sikorski, T. Hock, **N. Hill-Kapturczak**, A. Agarwal. The Story So Far: The Molecular Regulation of Heme Oxygenase-1 in Renal Injury. *Am J Physiology, Renal*. 286(3): F425-41, 2004.
5. **N. Hill-Kapturczak**, Tambi Jarmi, A. Agarwal. Growth Factors and Heme Oxygenase-1: Perspectives in Physiology and Pathophysiology. *Antioxidants Redox Signaling*. 9: 2197-2208, 2007.
6. M.A. Dawes, C.W. Mathias, D.M. Richard, **N. Hill-Kapturczak**, D.M. Dougherty. Adolescent Suicidal Behavior and Substance Use: Developmental Mechanisms. *Substance Abuse: Research and Treatment*, in press.
7. D.M. Richard, M.A. Dawes, C.W. Mathias, A. Acheson, **N. Hill-Kapturczak**, D.M. Dougherty. L-Tryptophan: Basic metabolism functions, behavioral research, and therapeutic indications. *Int J Tryptophan Res*, in press.

Abstracts/Posters:

1. T. Malinski, **N.S. Hill**, P. Hanley, F. Bailey, J. Fish. Electrochemical Preconcentration of Metals in Mercury Film Electrodes for Trace Analysis by ICP Emission and X-ray Fluorescence Spectroscopy. FACS Meeting, Detroit, Michigan, Abstract No. 471, 1987.
2. F. Kiechle, F. Bailey, **N. Hill**, D. Kessel, T. Malinski. Adriamycin Alters Membrane Potential in Rat Epididymal Adipocytes. *Clinical Research*, 36, 496A, 1988.
3. T. Malinski, F. Bailey, **N. Hill**, F. Kiechle. Adenosine Regulates Insulin-Induced Hyperpolarization. *Diabetes*, 37, 36A, 1988.
4. A. Ciszewski, **N. Hill**, T. Malinski, S. Goszczynski, L. Czuchajowski. Tetrakis (3-methoxy-4-hydroxyphenyl) Metalloporphyrins: Electrochemistry of Solutions and Polymeric Films. ACS National Meeting, Los Angeles, Abstract No. Inorg. 202, 1988.
5. F. Kiechle, F. Bailey, **N. Hill**, T. Malinski. Modulation of Insulin-Induced Hyperpolarization by Adenosine and Inhibitors of Phospholipid Methylation. Joslin Diabetes Center Symposium, Harvard University, 1988.
6. T. Malinski, A. Ciszewski, **N. Hill**, T. Wedrychowich, D. Dandurand, F. Kiechle. AC Impedance and Amperometric Techniques in the Study of Immobilized Cells Grown Directly on Semiconductor Electrodes. International Symposium: Physiology of Immobilized Cells, Wageningen, The Netherlands, Abstract No. P34, 1989.
7. T. Malinski, A. Ciszewski, **N. Hill**, D. Dandurand, F. Kiechle. AC Impedance Measurements of Ion Flux in BC3H-1 Myocytes in the Presence of Insulin and Vanadate. 73rd Annual Meeting Federation of American Societies for Experimental Biology, New Orleans, LA, Abstract No. E24, 1989.
8. T. Malinski, **N. Hill**, D. Dandurand, F. Kiechle. Impedance Measurements of Ion Flux in BHK-21 (C-13) Cells Grown Directly on a Semiconductor Electrode: Effect of Insulin and Vanadate. *Clin. Res.* 38-568A, 1990.
9. T. Malinski, **N. Hill**, A. Ciszewski, F. Kiechle. Stimulation of Ion Transport by Insulin and Vanadate in 3T3-L1 Fibroblasts Grown Directly on a Semiconductor Electrode. *Impedance Studies Diabetes* 39 (Suppl. 1): 205A, (Abstract No. 968), 1990.

10. T. Malinski, **N. Hill**, F. Kiechle. Cell culture Grown Directly on a Semiconductor Electrode: Impedance Studies of Ion Flux Induced by Insulin. *FASEB J.* 5:A754, 1991 (Abstract No. 2230).
11. S. Greenburg, Y. Wang, J. Xie, J. Kolls, T. Malinski, **N. Hill**. Intraneuronal Nitric Oxide Elevates cyclic GMP which Modulates Secretion of Norepinephrine. *Experimental Biology*, 1993.
12. **N. Hill-Kapturczak**, M.H. Kapturczak, K.M. Madsen, T. Malinski, E.R. Block, C.C. Tisher. Electrochemical Detection of Angiotensin II-Stimulated Nitric Oxide Release from Porcine Pulmonary Artery Endothelial Cells. *J Amer Soc of Neph.* 7 (9): A1565-A1565 Suppl, 1996.
13. M.H. Kapturczak, **N. Hill-Kapturczak**, T. Malinski, L. Zhang, C.C. Tisher, K.M. Madsen. Direct Measurements of Inducible Nitric Oxide Synthase (NOS-II)- Mediated Nitric Oxide Release from a Murine Medullary Thick Ascending Limb Cell Line. *J Amer Soc of Neph.* 7 (9): A1577-A1577 Suppl, 1996.
14. **N. Hill-Kapturczak**, M.H. Kapturczak, J.M. Patel, K.M. Madsen, E.R. Block, C.C. Tisher. Angiotensin II-Stimulated Nitric Oxide Release from Endothelial Cells is Mediated by Angiotensin IV. *J Amer Soc of Neph.* 8: A1522-A1522 Suppl, 1997.
15. M.H. Kapturczak, **N. Hill-Kapturczak**, K.M. Madsen, E.R. Block, C.C. Tisher. Differences in Agonist Stimulation of Nitric Oxide Release between cultured Pulmonary arterial and Aortic Endothelial Cells. *J Amer Soc of Neph.* 8: A1528-A1528 Suppl., 1997.
16. S.I. Zharikov, A. Sigova, **N. Hill-Kapturczak**, E.R. Block. Effect of a microtubule modulating agent on the L-arginine: NO pathway in cultured pulmonary artery endothelial cells (PAEC). *American Journal of Respiratory and Critical Care Medicine.* 159 (3): A349 -A349 Suppl., 1999.
17. L.B. Truong, **N. Hill-Kapturczak**, W. Garlington, S. Prabhu, H.S. Nick, A. Agarwal. Curcumin Upregulates Heme Oxygenase-1 (HO-1) Gene Expression in Human Renal Proximal Tubule Cells (HPTC). *J Amer Soc of Neph.* Abstract No. A2728, 1999.
18. M. Bhaskaran, **N. Hill-Kapturczak**, A.A. Kapasi, A. Agarwal, P.C. Singhal. Role of Smad Proteins in HIV-1-induced Proximal Tubular Cell (HK2/HEK) Apoptosis. *J Amer Soc of Neph.* Abstract No. A2489, 2000.
19. **N. Hill-Kapturczak**, L.B. Truong, V. Thamilselvan, G.A. Visner, H.S. Nick, A. Agarwal. Smad7 Inhibits Transforming Growth Factor-Beta (TGF- β)-Mediated Induction of Human Heme Oxygenase-1 in Renal Epithelial Cells. *J Amer Soc of Neph.* Abstract No. A2582, 2000.
20. **N. Hill-Kapturczak**, H.S. Nick, A. Agarwal. Curcumin induces heme oxygenase-1 gene expression in human renal proximal tubule cells: Involvement of NF- κ B. 41st Annual meeting of the Southern Salt, Water and Kidney club. December 2000, Sarasota, Florida.
21. N. Radhakrishnan, A.A. Kapasi, N. Nahar, M. Bhaskaran, **N. Hill**, A. Agarwal, P.C. Singhal. In HIV milieu, TGF β Receptors (Low and High) Lead to Tubular Cell Apoptosis via Smads. *J Amer Soc of Neph.* Abstract No. A3122, 2001.
22. **N. Hill-Kapturczak**, V. Thamilselvan, F. Liu, H.S. Nick, A. Agarwal. NF- κ B-dependent induction of heme oxygenase-1 (HO-1) gene expression by curcumin in human renal proximal tubule cells (HPTC). *J Amer Soc of Neph.* Abstract No. A3398, 2001.
23. **Hill-Kapturczak N**, Thamilselvan V, Liu F, Nick HS, Agarwal A. NF- κ B dependent induction of heme oxygenase-1 gene expression by curcumin in human renal proximal tubule cells. *ASN/ISN World Congress of Nephrology*, 2001.

24. **N. Hill-Kapturczak**, C. Voakes, H. S. Nick, A. Agarwal. Oxidized lipid-mediated heme oxygenase-1 induction in endothelial cells is dependent on reactive oxygen species and the protein kinase C and c-Jun N-terminal kinase pathways. *J Amer Soc of Neph.* 13: 83A-83A Suppl. 2002.
25. E.M. Sikorski, **N. Hill-Kapturczak**, T. Hock, J. Garcia, A. Agarwal. Regulation of the Human Heme Oxygenase-1 Gene by Cadmium in Renal Proximal Tubular Cells. *J Amer Soc of Neph.* 14:352A-352A, 2003.
26. **N. Hill-Kapturczak**, J.M. Kombrinck, M Punja, J. Garcia, E.M. Sikorski, T. Hock, A. Agarwal. Molecular Regulation of Heme Oxygenase-1 Gene Expression by Transforming Growth Factor- β 1 in Human Renal Proximal Tubular Cells. *J Amer Soc of Neph.*14: 172A-172A, 2003.
27. **N. Hill-Kapturczak**, E.M. Sikorski, T. Hock, J. Garcia, H.S. Nick, A. Agarwal. Identification of an Internal Enhancer that Regulates Heme-Mediated Human Heme Oxygenase-1 Gene Expression. *J Amer Soc of Neph.*14:274A-274A, 2003.
28. **N. Hill-Kapturczak**, T. Hock, A. Mark, A. Agarwal. Transcriptional Regulation of Heme Oxygenase-1 Gene Induction by Transforming Growth Factor- β in Human Renal Proximal Tubular Cells. *J Amer Soc of Neph.* 15:234A-234A, 2004.
29. K. Liby, A.E. Place, N. Suh, R. Risingsong, C. Williams, **N. Hill-Kapturczak**, A. Agarwal, T. Honda, G. Gribble, M.B. Sporn. *Proc. Am. Assoc. Cancer Res.* 45, abstr. 1387, 2004.
30. W. Durante, X.M. Liu, K.J. Peyton, H. Wang, **N. Hill-Kapturczak**, A. Agarwal, A.I. Schafer. Physiologic cyclic strain inhibits endothelial cell apoptosis via the induction of heme oxygenase-1. Presented at the American Heart Association meeting, Scientific Sessions 2004, November 7-10th, 2004.
31. **N. Hill-Kapturczak**, T. Hock, A. Mark, A. Agarwal. Transcriptional Regulation of Heme Oxygenase-1 (HO-1) Gene Expression by Transforming Growth Factor- β (TGF- β) in Human Renal Proximal Tubular Cells (RPTC). Presented at the Roles of TGF-beta in Disease Pathogenesis: Novel Therapeutic Strategies Keystone Symposia. March 28-April 2, 2005.
32. **N. Hill-Kapturczak**, T. Hock, A. Mark, A. Agarwal. Transcriptional Regulation of Heme Oxygenase-1 (HO-1) Gene Expression by Transforming Growth Factor- β (TGF- β) in Human Renal Proximal Tubular Cells (RPTC). Presented at the International Conference on Heme Oxygenases in Boston, MA. October 6-9, 2005.
33. J.S. Deshane, T.D. Hock, **N. Hill-Kapturczak**, A. Agarwal. Enhancer Sequences in Intron 1 of the Human Heme Oxygenase-1 (HO-1) Gene Regulate Heme and Nitric Oxide (NO) Mediated Induction in Renal Epithelial Cells. *J Amer Soc of Neph.* 16: 397A, 2005.
34. **N. Hill-Kapturczak**, T. Hock, A. Mark, A. Agarwal. Sp1-like Sequences Mediate Heme Oxygenase-1 Induction by Transforming Growth Factor-beta in Renal Proximal Tubular Cells. *J Amer Soc of Neph.* 16:416A, 2005.
35. J.S. Deshane, S. Chen, H. Was, A. Grochot-Przeczek, R. Lach, **N. Hill-Kapturczak**, G.P. Siegal, J. Dulak, A. Jozkowicz, A. Agarwal. Stromal Cell-Derived Factor-1 (SDF-1) Promotes Angiogenesis Via a Heme Oxygenase-1 (HO-1) Dependent Mechanism. *J Amer Soc of Neph.* 17, 2006.
36. A. Traylor, T. Hock, **N. Hill-Kapturczak**. Specificity Protein 1 and Smad-Dependent Regulation of Human Heme Oxygenase-1 Gene by Transforming Growth Factor- β 1 in Renal Epithelial Cells. The 5th International Congress Heme Oxygenase in Krakow, Poland. September 5 - 9, 2007.
37. J.-H. Kie, A. Traylor, A. Agarwal, M. Kapturczak, **N. Hill-Kapturczak**. Heme oxygenase-1 deficiency exacerbates renal fibrosis, inflammation and epithelial to mesenchymal transition

in obstructive kidney disease. The 5th International Congress Heme Oxygenase in Krakow, Poland. September 5 - 9, 2007.

38. J. Deshane, S. Chen, S. Caballero, H. Was, A. Grochot-Przeczek, R. Lach, **N. Hill-Kapturczak**, G.P. Siegal, J. Dulak, A. Jozkowicz, M.B. Grant, A. Agarwal. Stromal cell-derived factor-1 promotes angiogenesis via a heme oxygenase-1 dependent mechanism. The 5th International Congress Heme Oxygenase in Krakow, Poland. September 5 - 9, 2007.
39. J. Deshane, T.D. Hock, S. Bolisetty, S. Chhabra, **N. Hill-Kapturczak**, A. Agarwal. Sp1 binding sites in an intronic enhancer interact with the human heme oxygenase-1 promoter and regulate gene expression in renal epithelial cells. The 5th International Congress Heme Oxygenase in Krakow, Poland. September 5 - 9, 2007.
40. M. Mrug, J. Zhou, X. Cui, L.M. Guay-Woodford, **N. Hill-Kapturczak**, J.E. Murphy-Ullrich. Expression of thrombospondin 1, a latent TGFbeta activator, is abnormal in polycystic kidney disease. Submitted to J Amer Soc of Neph. 2007.
41. J.-H. Kie, A. Traylor, A. Agarwal, M. Kapturczak, **N. Hill-Kapturczak**. Heme oxygenase-1 deficiency exacerbates renal fibrosis, inflammation and epithelial to mesenchymal transition in obstructive kidney disease. J Amer Soc of Neph. Nov 2007.
42. D.M. Dougherty, D.M. Richard, C.W. Mathias, **N. Hill-Kapturczak**, M.A. Dawes, A.-B. Badawy, (2008, October). L-tryptophan as a research compound and therapeutic agent. Presented in a symposium entitled: Clinical studies with agents of different pharmacological activity. Symposia conducted at the meeting celebrating the 100th anniversary of the Nobel Prize Award to Paul Ehrlich, Nürnberg, Germany.

Trainees:

Amie Mark Traylor

Research Assistant (01/01/04 – 05/31/08)

Department of Medicine, Division of Nephrology

University of Alabama at Birmingham

Jeong-Hae Kie, M.D.

Postdoctoral Fellowship training (07/01/06 -06/31/07)

Department of Pathology

National Health Insurance Corporation Ilsan Hospital

Koyang, Korea

Grant Awards:

Completed:

NIH/NIDDK R01 DK071875

P.I.: **Nathalie Hill-Kapturczak**

Title: Heme Oxygenase-1 Expression by TGF- β

Duration: 06/15/06-05/01/08 (due to career path change)

Total costs: \$654,750

AHA Southeast Affiliate Grant-in-Aid

P.I.: **Nathalie Hill-Kapturczak**

Title: Antifibrotic Effects of Heme Oxygenase-1 in Renal Epithelial Cells

Duration: 07/01/05-09/30/07 (3 month no cost extension)

Total costs: \$154,000

NIH/NHLBI R01 HL068157

P.I.: Anupam Agarwal; Col.: Nathalie Hill-Kapturczak

Title: Human heme oxygenase-1 gene regulation by Oxidized LDL

Duration: 07/01/03-06/30/07

Annual direct costs: \$200,000

NIH Pilot and Feasibility Grant as part of a UAB PKD P30

(P.I.: Lisa Guay-Woodford, Co-P.I.: Brad Yoder)

P.I.: Nathalie Hill-Kapturczak

Title: HO-1 Modulates the Profibrotic Effects of TGF- β 1 in ARPKD

Duration: 10/01/05-08/31/06

Total costs: \$70,000

NIH/NIDDK K01 DK02902 (Mentored Research Scientist Development Award)

P.I.: Nathalie Hill-Kapturczak

Title: Heme Oxygenase-1 Gene Expression by TGF- β

Duration: 01/01/02 – 12/31/05 (one year no cost extension)

Total Cost: \$272,532