

## CURRICULUM VITAE

**Nader H. Moniri, Ph.D.**

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### EDUCATION & TRAINING

#### **Duke University Medical Center, Durham, North Carolina**

Post-Doctoral Fellow, Departments of Surgery, Pharmacology and Cancer Biology

Training in Pharmacology, Biochemistry, Chemical Biology, and Molecular Cell Biology

March 2004 – October 2005

#### **University of North Carolina, School of Pharmacy, Chapel Hill, North Carolina**

Ph.D., Pharmaceutical Sciences

Division of Medicinal Chemistry and Natural Products (now Chemical Biology and Medicinal Chemistry)

Training in Medicinal Chemistry, Pharmacology, Biochemistry, Organic Synthesis, Molecular Cell Biology

March, 2004

#### **Georgia State University, Atlanta, Georgia**

B.S., Biological Sciences, Minor in Chemistry

March, 1997

### PROFESSIONAL EXPERIENCE

#### **Associate Dean for Research**

**College of Pharmacy, Mercer University**

**January 2014 – Present**

- Primary research administrator for the College of Pharmacy, responsible for research vision, strategic initiatives, oversight of the College's research infrastructure and management of human and capital assets within the research enterprise.
- Responsible for fostering and promoting biomedical/pharmaceutical science, pharmacy practice, and pharmacy administration based-research within the College of Pharmacy; and, assisting the College faculty in design and implementation of research activities and development of strategies to procure extramural research funding.
- Accountable for research and scholarship objectives within the College 5-year Strategic Plan.
- Responsible for administration of all College sponsored research-related programs, events, and activities.
- Primary research liaison representing the College in internal and external research-related activities.

#### **Professor with Tenure / Principal Investigator**

**Department of Pharmaceutical Sciences, College of Pharmacy**

**Mercer University,**

**July 2018 – Present**

- Research focus on characterization of molecular pharmacology, cell signaling, and physiological function of G protein-coupled receptors including free-fatty acid receptor-4 and the  $\beta$ 2-adrenergic receptor, as well as drug discovery/medicinal chemistry efforts towards new chemical entities that target them.
- Research activities have been funded by a variety of extramural sources including: NIH/NIDDK, NIH/NHBLI, NIH/NINDS, Private Foundations and Private Industry.
- Teaching in Pharm.D. and Ph.D. curriculum includes physiology, pathophysiology, medicinal chemistry, and pharmacology in various systems, including: CNS disorders, musculoskeletal disorders, cardiovascular disorders, renal disorders, infectious diseases, endocrine disorders.
- Service activities include College Executive Committee, Curriculum Committee Chair, ACPE Accreditation and Self-Study Steering Committee member and Curriculum Subcommittee Chair, ACPE Accreditation Site-Visit Team member, as well as numerous Dean and Provost-appointed leadership positions, as listed below.
- Selected as a fellow for the 2011-2012 cohort of the American Association of Colleges of Pharmacy *Academic Leadership Fellowship Program*, a program designed to develop the nation's most promising pharmacy faculty for roles as future leaders in academic pharmacy and higher education.

**Associate Professor with Tenure / Principal Investigator**  
**Department of Pharmaceutical Sciences, College of Pharmacy**  
**Mercer University,**  
**July 2012 – June 2018**

**Assistant Professor (tenure-track) / Principal Investigator**  
**Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences**  
**Mercer University,**  
**July 2006 – June 2012**

**Senior Scientist, Department of Biochemistry and Molecular Pharmacology**  
**Neurogen Corporation, 2005 - 2006**

- Cloning and validation of novel pharmacotherapeutic receptor targets.
- Validation and assessment of novel compounds through cell-based and in vitro assays as well as high-throughput screening.
- Member of target discovery management team for CNS and metabolic targets.

**Invited Lecturer, University of North Carolina - Chapel Hill, 2005**

- Taught second year pharmacology/medicinal chemistry to pharmacy (Pharm.D.) students with focus in medicinal chemistry, mechanisms of action, and clinical pharmacology of drugs affecting the sympathetic nervous system.

**Post-doctoral Research, Duke University Medical Center, 2004 - 2005**

- Characterization of novel intracellular signaling cascades and pharmacological effects involving the  $\beta$ 2-adrenergic receptor and the effects of reactive oxygen and reactive nitrogen species on  $\beta$ 2 receptor signal transduction.
- Elucidation of biochemical function of the large GTPase dynamin, and its involvement in internalization and signaling of G protein-coupled receptors.
- Investigation of the involvement of dynamin and nitric oxide synthase in host-cell immunological responses leading to endocytosis of uroinvasive E. coli and Human Immunodeficiency Virus.

- Characterization of G protein-coupled receptor signaling cascades in prostate cancer.

#### **Ph.D. Dissertation Research, University of North Carolina - Chapel Hill, 1999-2004**

*Doctoral Dissertation: Neuropharmacological characterization of phenylaminotetralin analogues as functionally selective histamine H<sub>1</sub> receptor agonists*

- Elucidation of structural requirements and biochemical events associated with activation of G protein-coupled histamine H<sub>1</sub> receptors.
- Characterization of agonist-directed trafficking of receptor signals elicited by novel, functionally selective phenylaminotetralin-like H<sub>1</sub> biased agonists in clonal cell lines, primary cultures, and animal models.
- Investigation of H<sub>1</sub> receptor signal transduction cascades which lead to activation of tyrosine hydroxylase, rate-limiting enzyme in catecholamine biosynthesis.

#### **PEER-REVIEWED PUBLICATIONS**

Rambacher KM and **Moniri NH**. Cysteine redox state regulates human  $\beta$ 2-adrenergic receptor binding and function: implications for mechanisms of tachyphylaxis. *Submitted – Scientific Reports, August, 2019.*

**Moniri NH**. Reintroduction of quazepam: an update on comparative hypnotic and adverse effects. In Press- *Intl. Clin. Psychopharmacol.*, August, 2019. doi: 10.1097/YIC.0000000000000277

Chitre NM, Ray A, Wood B, **Moniri NH\***, Murnane KS\*. The Neuroprotective Effects of Docosahexaenoic Acid in a 6-Hydroxydopamine Rat Model of Parkinsonism is Associated with Reduced Reactive Oxygen Species Formation and Induced Kinase Activity. *Submitted - J Neurochem.* April , 2019.  
\* denotes co-corresponding authors.

Murnane KS, Guner OF, Bowen JP, Rambacher KM, **Moniri NH**, Murphy TJ, Daphney CM, Oppong-Damoah A, Rice KC. The adrenergic receptor antagonist carvedilol interacts with serotonin 2A receptors both in vitro and in vivo. *Pharmacol Biochem Behav.* 181:37-45, 2019.

**Moniri NH**, Momary KM, McMahon TJ, Nayee E. Statin-associated Achilles tendon rupture and reproducible bilateral tendinopathy upon repeated exposure. *Mayo Clin Proc.* 93(10):1530-1532, 2018.  
This article was featured in *Academic Pharmacy Now: The News Magazine of the American Association of Colleges of Pharmacy* [12(1):6-7,2019].

Senatorov IS and **Moniri NH**. The role of free-fatty acid receptor-4 (FFA4) in human cancers and cancer cell lines. *Biochem Pharmacol.* 150:170-180, 2018.

Cheshmehkani A, Senatorov IS, Dhuguru J, Ghoneim O, **Moniri NH**. Free-fatty acid receptor-4 (FFA4) modulates ROS generation and COX-2 expression via the C-terminal  $\beta$ -arrestin phosphosensor in Raw 264.7 macrophages. *Biochem Pharmacol.* 146:139-150, 2017.

**Moniri NH**. Free-fatty acid receptor-4 (GPR120): cellular and molecular function and its role in metabolic disorders. *Biochem Pharmacol.* 110-111:1-15, 2016.

Cheshmehkani A, Senatorov IS, Kandi P, Singh M, Britt A, Hayslett R, **Moniri NH**. Fish oil and flax seed oil supplemented diets increase FFAR4 expression in the rat colon. *Inflamm Res.* 64:809-15, 2015.

Singh M and **Moniri NH**. Reactive oxygen species as  $\beta$ 2-adrenergic receptor signal transducers. *J. Pharmaceu Pharmacol.* 2(1): 8-15, 2014.

Burns RN, Singh M, Senatorov IS, **Moniri NH**. Mechanisms of homologous and heterologous phosphorylation of FFA receptor 4 (GPR120): GRK6 and PKC mediate phosphorylation of Thr<sup>347</sup>, Ser<sup>350</sup>, and Ser<sup>357</sup> in the C-terminal tail. *Biochem Pharmacol.* 87:650-659, 2014.

Ryan GJ, **Moniri NH**, Smiley DD. Clinical effects of once-weekly exenatide for the treatment of type 2 diabetes mellitus. *Am J Health Syst Pharm.* 70(13):1123-1131, 2013.

Gleason BL, Siracuse MV, **Moniri NH**, Birnie CR, Okamoto CT, Crouch MA. Evolution of Preprofessional Pharmacy Curricula. *Am J Pharm Educ.* 77(5):95; 1-8, 2013.

Singh M and **Moniri NH**. Reactive oxygen species are required for  $\beta$ 2-adrenergic receptor- $\beta$ -arrestin interactions and signaling to ERK1/2. *Biochem Pharmacol.* 84:661-669, 2012.

Burns RN and **Moniri NH**. Agonist- and Hydrogen peroxide- mediated oxidation of the  $\beta$ 2 adrenergic receptor: evidence of receptor S-sulfenation as detected by a modified biotin switch assay. *J Pharmacol Exper Ther.* 339(3):914-921, 2011.

Wang Z, Humphrey C, Frilot N, Wang G, Nie Z, **Moniri NH**, Daaka Y. Dynamin2- and endothelial nitric oxide synthase-regulated invasion of bladder epithelial cells by uropathogenic Escherichia coli. *J Cell Bio.* 192(1):101-10, 2011.

Burns RN and **Moniri NH**. Agonism with the omega-3 fatty acids alpha-linolenic acid and docosahexaenoic acid mediates phosphorylation of both the short and long isoforms of the human GPR120 receptor. *Biochem Biophys Res Commun.* 396:1030-1035, 2010.

Bagchi G, Wu J, French J, Kim J, **Moniri NH**, Daaka Y. Androgens transduce the Gas-mediated activation of protein kinase A in prostate cells. *Cancer Res.* 68: 3225-3231, 2008.

**Moniri NH** and Daaka Y. Agonist-stimulated reactive oxygen species formation regulates  $\beta$ 2-adrenergic receptor signal transduction. *Biochem Pharmacol.* 74: 64-73, 2007.

Booth RG and **Moniri NH**. Novel ligands stabilize stereo-selective conformations of the histamine H1 receptor to activate catecholamine synthesis. *Inflamm Res.* 56:S1-2, 2007.

**Moniri NH** and Booth RG. Role of PKA and PKC in Histamine H1 Receptor-Mediated Activation of Catecholamine Neurotransmitter Synthesis. *Neurosci Lett.* 407:249-253, 2006.

Bagchi G, **Moniri NH**, Daaka Y. Androgen Receptor. *AfCS-UCSD Nature Molecule Pages.* 2006. (doi:10.1038/mp.a003790.01)

Guo R, Kasbohm EA, Arora P, Sample CJ, Baban B, Sud N, Sivashanmugam P, **Moniri NH**, Daaka Y. Expression and function of lysophosphatidic acid LPA1 receptor in prostate cancer cells. *Endocrinology.* 147:4883-4892, 2006.

Wang G, **Moniri NH**, Ozawa K, Stamler JS, Daaka Y. Nitric oxide regulates endocytosis by S-nitrosylation of dynamin. *Proc Natl Acad Sci, USA*. 103(5):1295-1300, 2006.

Booth RG and **Moniri NH**. Ligand-directed multifunctional signaling of histamine H1 receptors. *Inflamm Res*. 54:S44-45, 2005.

**Moniri NH**, Covington-Strachan DW, Booth RG. Ligand-directed functional heterogeneity of histamine H<sub>1</sub> receptors: Novel agonists selectively activate and block H1 mediated phospholipase C and adenylyl cyclase signaling in CHO cells. *J Pharmacol Exper Ther*. 311:274-281, 2004.

**Moniri NH** and Booth RG. Functional heterogeneity of histamine H1 receptors. *Inflamm Res*. 53:S71-72, 2004.

Booth RG, **Moniri NH**, Bakker RA, Choksi NY, Nix WB, Timmerman H, Leurs R. A novel phenylaminotetralin radioligand reveals a sub-population of histamine H1 receptors. *J Pharmacol Exper Ther*. 302:328-336, 2002.

#### BOOK CHAPTERS

**Moniri NH**. Drugs used to induce/support sedation or anesthesia. *Foye's Principles of Medicinal Chemistry*. Chapter 12 (pp. 423-466). Roche VF, Zito SW, Lemke TL, Williams DA, eds. Lippincott, Williams, & Wilkins, Philadelphia, PA, 8<sup>th</sup> ed., 2019.

**Moniri NH**. Sedative-Hypnotics. *Foye's Principles of Medicinal Chemistry*. Chapter 15 (pp. 485-507) Lemke TL and Williams DA, eds. Lippincott, Williams, & Wilkins, Baltimore, MD, 7<sup>th</sup> ed., 2012.

#### PUBLISHED PROCEEDINGS

Rambacher KM and **Moniri NH**. Redox deficient cysteine residues impair  $\beta$ 2-adrenergic receptor function. *The FASEB Journal*, 33(1S):668.3. Presented at Experimental Biology (ASPET), Orlando, FL, 2019.

Chitre NM, Wood B, Ray A, **Moniri NH**, Murnane KS. Assessing the neuroprotective effects of docosahexaenoic acid in 6-hydroxydopamine induced Parkinsonism in rats. *The FASEB Journal*, 33(1S):501.10. Presented at Experimental Biology (ASPET), Orlando, FL, 2019.

**Moniri NH** and Sambunaris A. The Institute for Advanced Medical Research at Mercer University: Translational and Clinical Research Opportunities for Students. *Am J Pharm Educ*. 82(5): 25. Presented at American Association of Colleges of Pharmacy, Boston, MA, 2018.

Rambacher KM and **Moniri NH**. Ligand Binding to the  $\beta$ 2-Adrenergic Receptor Is Dependent Upon Its Oxidation State. *The FASEB Journal*, 32(1S):555.14. Presented at Experimental Biology (ASPET), San Diego, CA, 2018.

Senatorov IS, Cheshmehkani A, **Moniri NH**. Investigating Phosphorylation Differences in FFA4 Short and Long Isoforms. *The FASEB Journal*, 32(1S):555.30. Presented at Experimental Biology (ASPET), San Diego, CA, 2018.

Cheshmehkani A and **Moniri NH**. Effects of phosphodeficient FFA4 receptor C-terminal mutants on COX-2 expression in macrophages. *The FASEB Journal*, 31(1S):992.10. Presented at Experimental Biology (ASPET), Chicago, IL, 2017.

Spry R, Hibicke M, Rogers D, Rambacher KM, Hayslett R, **Moniri N**, Murnane K. A new testing paradigm for evaluating motor and non-motor symptoms of 6-hydroxydopamine lesions in rats. *The FASEB Journal*, 31(1S):662.7. Presented at Experimental Biology (ASPET), Chicago, IL, 2017.

Murnane KS, Guner O, **Moniri NH**, Bowen P. Ligand-based pharmacophore modeling of 5-HT<sub>2A</sub> receptor biased agonism. *The FASEB Journal*, 29:768.12. Presented at Experimental Biology (ASPET), Boston, MA, 2015.

Singh M and **Moniri NH**. Role of reactive oxygen species as signal transducers in  $\beta$ 2-adrenergic receptor mediated  $\beta$ -arrestin signaling. *The FASEB Journal*, 28:662.2. Presented at Experimental Biology (ASPET), San Diego, CA, 2014.

Singh M and **Moniri NH**. Brighter side of reactive oxygen species (ROS) revealed in  $\beta$ 2 adrenergic receptor- $\beta$ -arrestin interactions and signaling to ERK1/2. *Molecular Biology of the Cell*. Presented at the annual meeting of the American Society for Cell Biology, Abstract #592, New Orleans, LA, 2013.

Singh M and **Moniri NH**. Reactive Oxygen Species are required for  $\beta$ 2-adrenergic receptor mediated  $\beta$ -arrestin signaling. *The FASEB Journal*, 26:665.6. Presented at Experimental Biology (ASPET), San Diego, CA, 2012.

Burns RN and **Moniri NH**. Elucidation of the phosphorylation profiles of the long and short isoforms of the omega-3 fatty acid receptor-1 (GPR120). *The FASEB Journal*, 26:837.7. Presented at Experimental Biology (ASPET), San Diego, CA, 2012.

Burns RN and **Moniri NH**. Agonist-dependent oxidation of the  $\beta$ 2 adrenergic receptor: Selective cysteine sulfenic acid formation detected by a modified biotin switch assay. *The FASEB Journal*, 25:629.7. Presented at Experimental Biology (ASPET), Washington, DC, 2011.

Burns RN and **Moniri NH**. Omega-3 fatty acid mediated phosphorylation of the short and long human GPR120 receptor isoforms. *The FASEB Journal*, 24:585.6. Presented at Experimental Biology (ASPET), Anaheim, CA, 2010.

**Moniri NH** and Daaka Y.  $\beta$ 2-adrenergic receptor mediated generation of reactive oxygen species is a component required for signal transduction, desensitization, and homodimerization. *The FASEB Journal*, 22:723.6. Presented at Experimental Biology (ASPET), San Diego, CA, 2008.

## PROFESSIONAL PUBLICATIONS

Metzger NL, O'Brien KA, **Moniri NH**, Peasah SK. Sanford Guide Improves At-Risk Student Performance in an Infectious Disease Series. *Let's think about it!* 19(1):1-9, 2018.

**Moniri NH.** The Use of a Patient-based Medicinal Chemistry Case in the Nervous System I Course. *Let's think about it!* 11(2):1-3, Spring, 2008.

#### **INVITED LECTURES, AND PRESENTATIONS**

Moniri NH. The omega-3 fatty acid receptor FFA4 modulates ROS generation and inflammatory signals in macrophages. Presented at the Mercer University Health Sciences Symposium, Macon, GA, 2019.

Chitre NM, Wood B, Ray A, **Moniri NH**, Murnane KS. The Neuroprotective Effects of Docosahexaenoic Acid in a 6-Hydroxydopamine Rat Model of Parkinsonism. Presented at the Mercer University Atlanta Research Conference, Atlanta, GA, 2019.

Rambacher KM and **Moniri NH**. Redox capable cysteine residues are necessary for  $\beta$ 2-adrenergic receptor function. Presented at the GA Clinical & Translational Science Alliance Conference, Pine Mountain, GA 2019.

McMahon TJ and **Moniri NH**. Adverse side effects of statin medication on Achilles tendon: A case study. Presented at IMPACT (Physical Therapy Association of Georgia) Annual Meeting, Athens, GA, 2018.

Rambacher KM and **Moniri NH**.  $\beta$ 2-adrenergic receptor function in human airway is mediated by cysteine-S-sulfenation. Presented at the Mercer University Atlanta Research Conference, Atlanta, GA, 2018.

Rambacher KM and **Moniri NH**. Cysteine S-sulfenation mediates canonical  $\beta$ 2-adrenergic receptor function in human airway. Presented at the GA Clinical & Translational Science Alliance Conference, Braselton, GA, 2018.

Senatorov IS and **Moniri NH**. Mechanisms of homologous and heterologous phosphorylation of FFA4 isoforms. Presented at the GA Clinical & Translational Science Alliance Conference, Braselton, GA, 2018.

Chitre N, **Moniri NH**, Murnane KS. Assessing the motor and non-motor symptoms of Parkinson's disease in rats using the 6-hydroxydopamine lesion model. Presented at the GA Clinical & Translational Science Alliance Conference, Braselton, GA, 2018.

Nayee E, Momary KM, **Moniri NH**. Statin-associated Achilles tendinopathy. Presented at the American Society of Health-System Pharmacists Mid-Year Meeting, Orlando, FL, 2017.

Rambacher KM and **Moniri NH**. Cysteine-S-sulfenation of the  $\beta$ 2-adrenergic receptor alters canonical signaling. Presented at Georgia Bio Innovation Summit, Atlanta, GA, 2017.

Metzger NL, O'Brien KA, **Moniri NH**, Peasah SK. Impact of the Sanford Guide on Students' Exam Performance in an Infectious Diseases Series. Presented at American Association of Colleges of Pharmacy, Nashville, TN, 2017.

**Moniri NH.** Free-Fatty Acid Receptors as the Next Generation of Pharmacotherapeutic Targets for T2DM and Obesity. Presented at Georgia Pharmacists Association Annual Conference, Amelia Island, FL, 2017.

**Moniri NH.** Regulation of free-fatty acid receptor-4: implications for anti-inflammatory signaling. Presented at Mercer University Health Sciences Symposium, Atlanta, GA, 2017.

Cheshmehkani A and **Moniri NH.** Anti-inflammatory effects of FFA4 in macrophages. Presented at Mercer University Health Sciences Symposium, Atlanta, GA, 2017.

Senatorov IS and **Moniri NH.** Phosphoregulation of Free Fatty Acid Receptor-4. Presented at Mercer University Health Sciences Symposium, Atlanta, GA, 2017.

Rambacher KM and **Moniri NH.** The impact of reactive oxygen species induced cysteine S-sulfenation on  $\beta$ 2-adrenergic receptor function. Presented at Mercer University Atlanta Research Conference, Atlanta, GA, 2017.

Cheshmehkani A and **Moniri NH.** Effects of Phosphodeficient FFAR4 C-terminal Mutants on COX-2 Expression in Macrophages. Presented at Mercer University Atlanta Research Conference, Atlanta, GA, 2017.

Senatorov IS and **Moniri NH.** Phosphoregulation of the long splice isoform of Free Fatty Acid Receptor-4. Presented at Mercer University Atlanta Research Conference, Atlanta, GA, 2017.

**Moniri NH.** Regulation of free-fatty acid receptor-4: implications for anti-inflammatory signaling. Presented at Department of Pharmacology, Emory University School of Medicine, Atlanta, GA, 2017.

Irvin T, Morgan JB, Deck J, Murnane KS, **Moniri NH,** Bowen P, Guner O, Jacobson A, and Rice KC. Synthesis and Characterization of 9-oxophenylmorphans: Potential Biased 5-HT<sub>2A</sub> Receptor Agonists. Presented at Gordon Research Conference: Heterocyclic Compounds, Newport, RI, 2016.

Irvin T, Morgan JB, Deck J, Murnane KS, **Moniri NH,** Bowen P, Guner O, Jacobson A, and Rice KC. Synthesis and Characterization of 9-oxophenylmorphans: Potential Biased 5-HT<sub>2A</sub> Receptor Agonists. Presented at Behavior, Biology, and Chemistry: Translational Research in Addiction, San Antonio, TX, 2016.

**Moniri NH.** The brighter side of ROS: Uncovering a role for ROS in  $\beta$ 2-adrenergic receptor function. Presented at Mercer University School of Medicine/College of Pharmacy Joint Research Symposium, Macon, GA, 2015.

Cheshmehkani A and **Moniri NH.** Effects of reactive oxygen species on agonist and antagonist binding to the  $\beta$ 2-adrenergic receptor. Presented at GRASP conference, Atlanta, GA 2014.

Burns RN, Singh M, Senatorov IS, **Moniri NH.** Mechanisms of homologous and heterologous phosphorylation of the anti-inflammatory and anti-diabetic Free-Fatty Acid Receptor FFA4 (GPR120). Presented at American Association of Colleges of Pharmacy, Grapevine, TX, 2014.

**Moniri NH.** A brighter side of ROS: Uncovering a role for ROS in beta-2-adrenergic receptor function. Presented at the Center for Drug Discovery, Northeastern University, Boston, MA, April 23, 2013.



**Moniri NH\***, Gleason BL\*, Birnie CR, Crouch MA, Okamoto CT, Siracuse MV, McKay AB. The evolving landscape of pre-professional pharmacy curricula. Presented at the annual meeting of the American Association of Colleges of Pharmacy, Orlando, FL, 2012. \* denotes presenters.

**Moniri NH.** Alternative teaching strategies in the classroom: Development of critical thinking skills using case studies. Presented at Mercer University Georgia Baptist College of Nursing Faculty Retreat, January 5, 2012.

**Moniri NH.** Development of critical thinking skills using case studies. Presented for the Mercer University Council of Deans, September 9, 2011.

**Moniri NH.** Oxidation of G protein-coupled receptors: The role of ROS on  $\beta_2$  adrenergic receptor signaling. Presented at Mercer University College of Pharmacy and Health Sciences Research Symposium, August 12, 2011.

**Moniri NH,** Strom, JG, Ashworth LE, Barnett CW, Bartling JW, Klein CM. A continuous improvement process for integrated basic and clinical sciences courses in the PharmD curriculum. Presented at the annual meeting of the American Association of Colleges of Pharmacy, San Antonio, TX, 2011.

**Moniri NH.** Regulation of the insulinotropic omega-3 fatty acid receptor GPR120 by phosphorylation. Presented at The Medical Center of Central Georgia – Joint Research Conference, December 9, 2010.

**Moniri NH.** Regulation of  $\beta_2$ -adrenergic receptor signaling by reactive oxygen species. Invited Seminar. Presented at Georgia State University, Dept. of Biology, December 4, 2009.

Neal RL, Hendy MA, **Moniri NH.** Cloning, expression, and initial functional characterization of the human and rat free-fatty acid receptor GPR120. American Society for Pharmacology and Experimental Therapeutics - SE Region Abstracts. Presented at ASPET-SEPS Region meeting, Augusta, GA, 2007.

Booth RG and **Moniri NH.** Functionally selective ligands for the Histamine H<sub>1</sub> GPCR. *Experimental Biology meeting abstracts.* Presented at Experimental Biology (ASPET), San Diego, CA, 2005.

**Moniri NH** and Booth RG. Functionally selective histamine H<sub>1</sub> receptor ligands stimulate tyrosine hydroxylase in bovine adrenal chromaffin cells: effects of PKC and PKA inhibition on H<sub>1</sub>-mediated catecholamine synthesis. *Society for Neuroscience Abstracts*, Vol. 29, presented at Society for Neuroscience Meeting, New Orleans, LA, 2003.

Legere JA, **Moniri NH,** Booth RG. ( $\pm$ )-2-Dimethylamino-5-phenyl-1,2,3,4- tetrahydronaphthalene binds to histamine H<sub>1</sub> receptors and selectively modulates cAMP vs. IP signaling pathways. *American Chemical Society Abstracts*, Paper #590220, presented at American Chemical Society Meeting, New Orleans, LA, 2003.

Legere JA, **Moniri NH,** Booth RG. 2-Dimethylamino-5-phenyl-1,2,3,4-tetrahydronaphthalenes: A new class of ligands for histamine H<sub>1</sub> and serotonin 5-HT<sub>2</sub> type receptors. *American Chemical Society Abstracts*, Paper #43231, presented at American Chemical Society Meeting, New York City, NY, 2003.

**Moniri NH**, Wyrick SD, Booth RG. Novel ligands selectively activate histamine H1 receptors coupled to IP vs. cAMP signaling pathways to stimulate tyrosine hydroxylase. *Society for Neuroscience Abstracts*, Vol. 28, Program No. 830.13, presented at Society for Neuroscience Meeting, Orlando, FL, 2002.

Ghoneim OM, Covington DW, **Moniri NH**, Booth RG. Novel phenylaminotetralins stimulate IP accumulation and dopamine synthesis in rat striatum. *Society for Neuroscience Abstracts*, Vol. 28, Program No. 249.5, presented at Society for Neuroscience Meeting, Orlando, FL, 2002.

**Moniri NH**, Wyrick, SD, Booth RG. New rigid diarylaminopropanes are histamine H1 ligands that stimulate brain dopamine synthesis. *Society for Neuroscience Abstracts*, Vol. 27, Program No. 479.20, presented at Society for Neuroscience Meeting, San Diego, CA, 2001.

## COMPETITIVE FUNDING

### Current:

NIH/NHLBI (1R15HL138603) 07/01/2017 – 06/30/2020  
The role of ROS on beta-2-adrenergic receptor function in human airway  
Role: Principal Investigator  
Impact Score = 20  
\$462,660 Total Costs

### Pending:

NIH/NINDS 09/01/2019 – 08/31/2024  
Elucidating the role of FFA4 in dopamine synthesis and neuroprotection in Parkinson's Disease.  
Role: Principal Investigator  
R01; total costs requested \$2,097,706; submitted Feb 2019

### Completed:

United Soybean Board Soy Health Research Program 02/02/2017 – 04/31/2019  
Effects of Soybean Oil on FFAR4 activity in Parkinson's Disease  
Role: Principal Investigator  
\$10,000 Total Costs

NIH/NINDS (1R03NS095239) 03/01/2016 – 02/28/2019  
FFAR4 and nigrostriatal function: A novel target for treatment of PD?  
Role: Principal Investigator  
Impact Score = 25; Percentile = 7  
\$154,220 Total Costs

NIH/NIDDK (1R15DK098730) 03/01/2013 – 02/28/2017  
The role of phosphorylation in regulating the antidiabetic effects of O3FAR1.  
Role: Principal Investigator  
Impact Score = 10  
\$409,770 Total Costs

Mercer University Seed Grant 07/01/2012 – 06/30/2013

GPR120 expression and function in the lung.  
 Role: Principal Investigator  
 \$4,000 Direct Costs

Mercer University Seed Grant 07/01/2011 – 06/30/2012  
 The role of ROS on  $\beta$ 2-adrenergic receptor mediated ERK1/2 activation.  
 Role: Principal Investigator  
 \$10,000 Direct Costs

Diabetes Action Research and Education Foundation 01/01/2011 – 12/31/2011  
 Uncovering the molecular mechanisms involved in GPR120-mediated GLP-1 secretion.  
 Role: Principal Investigator  
 \$12,000 Total Costs (\$10,800 Direct Costs)

American Foundation for Pharmaceutical Education 08/01/2010 – 07/31/2011  
 GPR120 intracellular signaling.  
 Role: Principal Investigator, (Pre-doctoral fellowship awarded to Rebecca L. Burns, PharmD/PhD student)  
 \$6,000 Direct Costs

Mercer University Seed Grant 07/01/2010 – 06/30/2011  
 Localization of  $\beta$ 2-Adrenergic receptor oxidation sites  
 Role: Principal Investigator  
 \$3,500 Direct Costs

Diabetes Action Research and Education Foundation 01/01/2010 – 12/31/2010  
 In vivo analysis of the role of omega-3 fatty acids in regulation of GPR120 expression.  
 Role: Principal Investigator  
 \$15,000 Total Costs (\$13,500 Direct Costs)

American Foundation for Pharmaceutical Education 08/01/2009 – 07/31/2010  
 GPR120 intracellular signaling.  
 Role: Principal Investigator, (Pre-doctoral fellowship awarded to Rebecca L. Burns, PharmD/PhD student)  
 \$6,000 Direct Costs

Mercer University Seed Grant 07/01/2009 – 06/30/2010  
 GPR120-mediated ERK1/2 phosphorylation.  
 Role: Principal Investigator  
 \$3,500 Direct Costs

American Association of Colleges of Pharmacy, New Investigators Award 01/01/2009 – 12/31/2009  
 $\beta$ 2-receptor mediated ROS generation.  
 Role: Principal Investigator  
 \$10,000 Direct Costs

Diabetes Action Research and Education Foundation 01/01/2009 – 12/31/2009  
 The role of omega-3 fatty acids in regulation of GPR120 expression.

Role: Principal Investigator  
 \$15,000 Total Costs (\$13,500 Direct Costs)

American Foundation for Pharmaceutical Education 08/01/2008 – 07/31/2009  
 GPR120 intracellular signaling.  
 Role: Principal Investigator, (Pre-doctoral fellowship awarded to Rebecca L. Burns, PharmD/PhD student)  
 \$6,000 Direct Costs

Mercer University Seed Grant 07/01/2008 – 06/30/2009  
 GPR120 desensitization.  
 Role: Principal Investigator  
 \$4,600 Direct Costs

Mercer University Biomedical Scholars Training Initiative 05/01/2008 – 08/31/2008  
 $\beta$ 2-receptor mediated ROS generation.  
 Role: Principal Investigator  
 \$5,415 Direct Costs

Solvay Pharmaceuticals Training Grant 05/01/2008 – 08/31/2008  
 GPR120-mediated ERK1/2 signaling.  
 Role: Principal Investigator  
 \$4,600 Direct Costs

Mercer University Seed Grant 07/01/2007 – 06/30/2008  
 GPR120-mediated GLP-1 secretion.  
 Role: Principal Investigator  
 \$3,500 Direct Costs

Solvay Pharmaceuticals Training Grant 05/01/2007 – 08/31/2007  
 GPR120-mediated inositol phosphate formation.  
 Role: Principal Investigator  
 \$4,100 Direct Costs

## TEACHING

### *College of Pharmacy, Mercer University*

- PHA450/451 - Nervous System Disorders I/II - Pharmacology and Medicinal Chemistry (2006 – Present)
- PHA453 - Cardiovascular and Renal Disorders II– Pharmacology and Medicinal Chemistry (2006 – 2011)
- PHA533 - Musculoskeletal Disorders and Pain - Pharmacology and Medicinal Chemistry (2006 – Present)
- PHA551 - Endocrine Disorders - Physiology, Pathophysiology, Pharmacology and Medicinal Chemistry (2011 – Present)
- PHA554/555 - Infectious Diseases I/II- Physiology, Pathophysiology, Pharmacology and Medicinal Chemistry, Course Coordinator (2007 – Present)
- PHA804 - Methods in Cell and Molecular Biology – Radioisotopes (2008 – 2016)
- PA531 - Pharmacotherapy - Infectious Diseases (2009)

### *School of Pharmacy, University of North Carolina – Chapel Hill*

- PCY423 - Autonomic, Autocoids, Hormones – Medicinal Chemistry

## **SERVICE AND LEADERSHIP**

### ***National and International Service***

- U.K. Biotechnology and Biological Sciences Research Council (BBSRC), Invited Grant Reviewer (2017)
- Scientific Board of Advisors, *Institute for Advanced Medical Research* (2016 – Present)
- National Institutes of Health, Center for Scientific Review, Cell Biology Special Emphasis Panel Study Section Reviewer (ZRG1 CB-T(81)A) (June 2016)
- Diabetes U.K., Invited Grant Reviewer (2014)
- National Institutes of Health, Center for Scientific Review, Molecular and Integrative Signal Transduction (MIST) Study Section Reviewer, *Ad hoc.* (June 2012; June 2014)
- UNC-Chapel Hill, School of Pharmacy Alumni Mentoring Program (2014 – Present)
- American Association of Colleges of Pharmacy, Invited Grant Reviewer (2010, 2011, 2012, 2013, 2014, 2017)
- U.K. Biotechnology and Biological Sciences Research Council (BBSRC), Invited Grant Reviewer (2012)
- American Association of Colleges of Pharmacy, Council of Faculties Quorum Committee (2012)
- American Association of Colleges of Pharmacy, Rufus A. Lyman Award Committee (2011)

### ***Service to Mercer University***

- College of Pharmacy Dean Search Committee, Chair (2016-2017)
- Strategic Plan Research Working Group (2016 - 2018)
- Institutional Radiation Safety Committee (2006 – 2017)
- Research and Scholarship Committee Advisory to the Provost (2016-2017)
- University Graduate Council (2006 – 2012)
- Mercer University Biomedical Scholars (MUBS) Training Program Planning Committee (2007 – 2013)
- House of Delegates Research Committee (2007- 2010)
- Promotion and Tenure Committee, College of Health Professions (2013 – 2015)
- University Honor Committee, Chair (2012)

### ***Service to College of Pharmacy, Mercer University***

- Associate Dean for Research (2014 – Present)
- Executive Committee (2014 – Present)
- Ad hoc committee on P&T Policies and Procedures, Chair (2016)
- Clinical Pharmacology/Experimental Pharmacotherapeutics Faculty search committee, Chair (2017)
- Curriculum Committee, Chair (August 2009 – October 2013), Interim Chair (June – December 2008)
- ACPE Accreditation and Self-Study Steering Committee (2011 – 2013)
- ACPE Accreditation and Self-Study Curriculum Subcommittee, Chair (2011 – 2013)
- APPE Selection Committee (2014-2017)
- ACPE Accreditation and Self-Study Organization and Administration Subcommittee (2007-2008)
- Department of Pharmaceutical Sciences Graduate Student Admissions Committee (2007 – 2010)
- Department of Pharmaceutical Sciences Scholarship Awards Committee (2010 – Present)
- Student Advising (2006 – Present)
- Faculty Advisor to Phi Delta Chi professional pharmacy fraternity (2006 – 2016)
- Pharmacology Faculty search committee, Chair (2010 – 2011)

- Pharm.D./Ph.D. Program Review Committee, Chair (2008 – 2009)
- Department of Pharmaceutical Sciences and Pharmacy Practice Search Committees (15, since 2006)

### **Scholarly Service**

- Editorial Advisory Board Member, *Biochemical Pharmacology* (2014 - Present)
- Editorial Board Member:  
*Heliyon* (2018 - Present)  
*Journal of Pharmaceutics and Pharmacology* (2013 - Present)  
*Journal of Pharmacology and Clinical Toxicology* (2013 - Present)  
*Journal of Diabetes Research and Clinical Metabolism* (2011- Present)
- Peer Reviewer for *Advances in Pharmacology* (2013)
- Peer Reviewer for *Remington: The Science and Practice of Pharmacy*, 22<sup>nd</sup> edition (2012)
- Peer Reviewer for Scholarly Journals (*Ad hoc*)  
*British Journal of Pharmacology* (since 2019)  
*Medicinal Research Reviews* (since 2019)  
*Cellular and Molecular Life Sciences* (since 2019)  
*EBioMedicine* (since 2018)  
*Heliyon* (since 2018)  
*Biomaterials Science* (since 2017)  
*Prostaglandins, Leukotrienes, and Essential Fatty Acids* (since 2017)  
*Canadian Journal of Physiology and Pharmacology* (since 2016)  
*Cardiovascular Diabetology* (since 2016)  
*Journal of the American Chemical Society* (since 2015)  
*Neuropharmacology* (since 2015)  
*Scientific Reports* (since 2015)  
*Medicinal Chemistry Communications* (since 2015)  
*ChemMedChem* (since 2014)  
*Chemical Reviews – ACS* (since 2014)  
*Journal of Physiology* (since 2014)  
*Currents in Pharmacy Teaching and Learning* (since 2014)  
*American Journal of Pharmaceutical Education* (since 2013)  
*Neuroscience Letters* (since 2013)  
*Expert Opinion on Therapeutic Patents* (since 2013)  
*Bioorganic and Medicinal Chemistry Letters* (since 2013)  
*Pharmacological Research* (since 2012)  
*European Journal of Medicinal Chemistry* (since 2010)  
*Journal of Medicinal Chemistry* (since 2009)  
*Journal of Pharmacology and Experimental Therapeutics* (since 2007)  
*Drug Design, Development, and Therapy* (since 2007)  
*Biochemical Pharmacology* (since 2006)  
*Bioorganic and Medicinal Chemistry* (since 2006)

### **HONORS**

- 2019, Elected Graduation Hooder by Class of 2019, Mercer University College of Pharmacy
- 2018, Elected Graduation Hooder by Class of 2018, Mercer University College of Pharmacy
- 2017, Elected Graduation Hooder by Class of 2017, Mercer University College of Pharmacy

- 2017, Inductee, Phi Kappa Phi Honor Society
- 2016, Distinguished Educator Award, College of Pharmacy, Mercer University
- 2016, Award for Excellence in Service, College of Pharmacy, Mercer University
- 2016, Elected Graduation Hooder by Class of 2016, Mercer University College of Pharmacy
- 2015, Elected Graduation Hooder by Class of 2015, Mercer University College of Pharmacy
- 2014, Award for Excellence in Research, College of Pharmacy, Mercer University
- 2014, Inductee, Rho Chi Pharmacy Honor Society
- 2014, Elected Graduation Hooder by Class of 2014, Mercer University College of Pharmacy
- 2013, Elected Graduation Hooder by Class of 2013, Mercer University College of Pharmacy
- 2012, Teacher of the Year Award, 2011-2012, Rho Chi Pharmacy Honor Society, Mercer University
- 2011-2012, Fellow, American Association of Colleges of Pharmacy, Academic Leadership Fellowship Program
- 2011, Elected Graduation Hooder by Class of 2011, Mercer University College of Pharmacy and Health Sciences
- 2010, Teacher of the Year Award, 2009-2010, Rho Chi Pharmacy Honor Society, Mercer University
- 2010, Elected Graduation Hooder by Class of 2010, Mercer University College of Pharmacy and Health Sciences
- 2009, Elected Graduation Hooder by Class of 2009, Mercer University College of Pharmacy and Health Sciences
- 2008, Teacher of the Year Award, 2007-2008, Rho Chi Pharmacy Honor Society, Mercer University
- 2008, Elected Graduation Marshall by Class of 2008, Mercer University College of Pharmacy and Health Sciences
- 2007, New Professor Recognition Award, 2006-2007, Rho Chi Pharmacy Honor Society, Mercer University
- 2005, Invited Lecturer, School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, NC

## **STUDENT TRAINEES**

### **Graduate Trainees:**

- Rebecca N. Burns, Pharm.D./Ph.D., 2012
- Monalisa Singh, M.D., Ph.D., 2014
- Ameneh Cheshmehkani, Ph.D., 2018
- Ilya S. Senatorov, Pharm.D./Ph.D., 2018
- Kalyn M. Rambacher, Ph.D. student, 2019
- Kirti Singh, Ph.D. student, expected 2023
- Priyanka Karmokar, Ph.D. student, expected 2023
- Andrea Green, Pharm.D./Ph.D. student, expected 2024

### **Ph.D. Advisory Committees:**

- Praveen Kandi – Ph.D., 2010 – 2013
- Amna Ali - Ph.D., 2008 – 2014
- Delaram Moshkelani – Pharm.D/Ph.D., 2007 – 2014
- Colby Shemesh – Ph.D., 2013 – 2015
- Martha Graham – Ph.D., 2013 – 2017

- Meghan Hibicke – Ph.D., 2013 – 2017
- Earnest Taylor – Ph.D., 2013 – 2017
- Lesly Anne Samedy, Pharm.D./Ph.D., (co-advisor), 2012 – 2018
- Blair Curless – Pharm.D./Ph.D., 2010 – 2018

**Undergraduate Trainees:**

- Mary Hendy, Pharm.D., Solvay Pharmaceuticals Sponsored Research Assistant, Summer, 2007
- Katherine Dugan, High School Summer Research Assistant, Summer 2007
- Emilianne McCraine, B.S., Mercer Undergraduate Biomedical Scholars Research Program, Summer 2008
- M. Scott Kilpinen, Pharm.D., Research Assistant, Spring 2009
- Victoria Robinson, Pharm.D., Solvay Pharmaceuticals Sponsored Research Assistant, Summer, 2008
- Victoria Robinson, Pharm.D., Research Assistant, 2008-2009
- April Britt, Pharm.D., Research Assistant, Spring 2011

**PROFESSIONAL AFFILIATIONS**

- Member, American Society for Pharmacology and Experimental Therapeutics
- Member, American Association of Colleges of Pharmacy

**CITIZENSHIP**

- U.S.A, Naturalized