

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 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, Department of Pharmaceutical Sciences
Training in Pharmacology, Medicinal Chemistry, Biochemistry, Molecular Cell Biology
March, 2004

Georgia State University, Atlanta, Georgia

B.S., Biological Sciences, Minor in Chemistry
March, 1997

CURRENT POSITION

Assistant Professor (tenure-track) / Principal Investigator

**Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences,
Mercer University,**

July 2006 -

- Characterization of neuro-endocrine linked G protein-coupled receptors involved in regulation of insulin homeostasis.
- Elucidation of signaling pathways involved in β -adrenergic receptor-mediated reactive oxygen species formation.
- Teaching in Pharm.D. and Ph.D. curriculum includes medicinal chemistry, pharmacology and physiology in various systems, including: CNS disorders, musculoskeletal disorders, cardiovascular disorders, renal disorders, infectious diseases.

PROFESSIONAL EXPERIENCE

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.
- Participation in target discovery management for CNS and metabolic targets.

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

- Lectured second year pharmacology course 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 β 2-adrenergic receptor and the effects of reactive oxygen and reactive nitrogen species on β 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 H₁ receptor agonists

- Elucidation of structural requirements and biochemical events associated with activation of G protein-coupled histamine H₁ receptors.
- Characterization of agonist-directed trafficking of receptor signals elicited by novel, functionally selective phenylaminotetralin-like H₁ biased agonists in clonal cell lines, primary cultures, and animal models.
- Investigation of H₁ receptor signal transduction cascades which lead to activation of tyrosine hydroxylase, rate-limiting enzyme in catecholamine biosynthesis.

Teaching Assistant, School of Pharmacy, University of North Carolina - Chapel Hill, 1999-2004

- Directed first and second year biochemistry recitations for the pharmacy (Pharm.D.) curriculum.

Undergraduate Research Assistant, Georgia State University, 1997

- Analyzed genomes of various *Candida albicans* species from HIV patients using molecular biology and microbiological techniques in order to characterize genomic heterogeneity between strains.

PUBLICATIONS (PEER-REVIEWED)

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

Moniri NH and Daaka Y. Agonist-stimulated reactive oxygen species formation regulates β 2-adrenergic receptor signal transduction. *Biochemical Pharmacology*, 74: 64-73, 2007.

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

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

Bagchi G, **Moniri NH**, Daaka Y. Androgen Receptor. *AfCS-Nature Molecules Pages*, 2006.

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. *Proceedings of the National Academy of Sciences, USA*, 103(5):1295-1300, 2006.

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

Moniri NH, Covington-Strachan DW, Booth RG. Ligand-directed functional heterogeneity of histamine H₁ receptors: Novel agonists selectively activate and block H₁ mediated phospholipase C and adenylyl cyclase signaling in CHO cells. *Journal of Pharmacology and experimental Therapeutics*, 311:274-281, 2004.

Moniri NH and Booth RG. Functional heterogeneity of histamine H₁ receptors. *Inflammation Research*, 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. *Journal of Pharmacology and Experimental Therapeutics*, 302:328-336, 2002.

PRESENTATIONS

Moniri NH and Daaka Y. β_2 -adrenergic receptor mediated generation of reactive oxygen species is a component required for signal transduction, desensitization, and homodimerization. *The FASEB Journal*. Presented at Experimental Biology (ASPET), Abstract #723.6, San Diego, CA, 2008.

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 H₁ GPCR. *Experimental Biology meeting abstracts*. Presented at Experimental Biology (ASPET), San Diego, CA, 2005.

Moniri NH and Booth RG. Functionally selective histamine H₁ receptor ligands stimulate tyrosine hydroxylase in bovine adrenal chromaffin cells: effects of PKC and PKA inhibition on H₁-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 H₁ 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 H₁ and serotonin 5-HT₂ 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:

Mercer University Seed Grant, GPR120 desensitization, 2009, \$4600.

Mercer University Biomedical Scholars Training Initiative program, β 2-receptor mediated ROS generation, 2008, \$5415.

Solvay Pharmaceuticals Training Grant, GPR120-mediated ERK1/2 signaling, 2008, \$4400.

American Foundation for Pharmaceutical Education, GPR120 intracellular signaling, Pre-doctoral fellowship awarded to Rebecca L. Neal, PharmD/PhD student, 2008, \$6000.

Completed:

Mercer University Seed Grant, GPR120-mediated GLP-1 secretion, 2008, \$3500.

Solvay Pharmaceuticals Training Grant, GPR120-mediated inositol phosphate formation, 2007, \$4100.

NIH (NIAID) (1R21AI065927-01A1): Regulation of uropathogenic E. coli invasion by dynamin, 05/2006-04/2008, \$275,000 (PI: Yehia Daaka).

Pending:

NIH (NIGMS) (1R15GM085330): Uncovering the molecular mechanisms of β 2-receptor mediated formation of ROS. Scored, Pending Revision and Resubmission.

TEACHING

College of Pharmacy and Health Sciences, Mercer University

- PHA450 - Nervous System Disorders I - Pharmacology and Medicinal Chemistry
- PHA453 - Cardiovascular and Renal Disorders II- Pharmacology and Medicinal Chemistry
- PHA550 - Musculoskeletal Disorders - Pharmacology and Medicinal Chemistry
- PHA554 - Infectious Diseases I- Pharmacology and Medicinal Chemistry, Course Coordinator
- PHA804 - Research Techniques - Radioisotopes
- PHA821 - Pharmacology

School of Pharmacy, University of North Carolina – Chapel Hill

- PCY423 – Autonomic, Autocoids, Hormones – Medicinal Chemistry

SERVICE AND LEADERSHIP

Service to Mercer University

- Institutional Radiation Safety Committee
- University Graduate Council
- Howard Hughes Medical Institute Undergraduate Research Award Planning Committee
- Biomedical Scholars Training Initiative Planning Committee
- House of Delegates Research Committee

Service to College of Pharmacy and Health Sciences, Mercer University

- Curriculum Committee
- Self-Study Committee
- Graduate Student Admissions Committee
- Student Advising
- Faculty Advisor to Phi Delta Chi professional pharmacy fraternity
- Institutional Radiation Safety Committee

Service to the School of Pharmacy, University of North Carolina – Chapel Hill

- Graduate Student Organization
- Laboratory Radiation Safety Officer

Service to Discipline

- Peer Reviewer for Scholarly Journals (*Ad hoc*)
 - Biochemical Pharmacology* (since 2006)
 - Bioorganic and Medicinal Chemistry* (since 2006)
 - Drug Design, Development, and Therapy* (since 2007)
 - Journal of Pharmacology and Experimental Therapeutics* (since 2004)
 - Molecular Pharmacology* (since 2005)

HONORS AND PROFESSIONAL AFFILIATIONS

- Class of 2009, Elected Graduation Hooder, Mercer University College of Pharmacy and Health Sciences, 2008
- Teacher of the Year Award, 2007-2008, Rho Chi Honor Society, Mercer University Chapter, 2008
- Class of 2008, Elected Graduation Marshall, Mercer University College of Pharmacy and Health Sciences, 2007
- New Professor Recognition Award, 2006-2007, Rho Chi Honor Society, Mercer University Chapter, 2007
- Inductee, Cambridge's Who's Who in the Pharmaceutical Industry, 2006
- Invited Lecturer, School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2005
- Research distinction, Microbiology, Georgia State University, Atlanta, GA, 1997

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

CITIZENSHIP

- U.S.A, Naturalized