

Anastasios Lymperopoulos

Subjects: Pharmacology & Pharmacy

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My laboratory for the Study of Neurohormonal Control of the Circulation studies the molecular pharmacology, physiology, and biology of the G protein-coupled receptors (GPCRs) that regulate cardiac function and systemic circulation in general. Particular emphasis is given to autonomic nervous system's (specifically adrenergic) receptors and to angiotensin II receptors. The general focus is on studying mechanisms underlying abnormal signaling/function of these GPCRs that contribute to heart failure pathophysiology, aiming at discovering and validating novel molecular targets for cardiovascular disease therapy. Our lab's studies also include novel molecular effects of beta-blockers and angiotensin receptor blockers, two very important drug classes acting through cardiovascular adrenergic and angiotensin receptors, respectively.

Keywords: Neurohormonal control of the Circulation ; Adrenal Physiology and Pharmacology ; Catecholamines ; Signal Transduction ; G protein-coupled receptor Kinases ; Beta-Arrestins ; Heart disease ; Autonomic nervous system receptors ; Aldosterone ; G protein-coupled receptors

My career started by earning M.Sc. in Medicinal Chemistry followed by Ph.D. in Pharmacology, after graduating from the School of Pharmacy of the University of Patras in my home country Greece. Its major turning point was in 2004, when I joined the lab of Dr. Walter Koch at Thomas Jefferson University, a former postdoctoral fellow of Nobel laureate Professor Robert Lefkowitz's. After a successful 5-year-long postdoctoral tenure in Wally's lab, I moved on to an independent faculty position at Nova Southeastern University in 2009. Since then, I have had several successes, awards and honors, most prominent among which my elections as Fellow of the American Heart Association (FAHA) with its Council on Basic Cardiovascular Sciences (BCVS) and as Fellow of the European Society of Cardiology (FESC), as well as a 5-year Scientist Development Grant award from the American Heart Association (AHA). In addition, I have been an AHA postdoctoral research fellow for a total of three years in the past, and, in fact, my postdoctoral fellowship application with AHA in 2007 got an unusual 1-year extension based on its exceptionally high score. I have also been a finalist for the AHA-sponsored Melvin L. Marcus Young Investigator Award in Basic Cardiovascular Sciences, and for the Cardiovascular Research Award of the Council on Basic Cardiovascular Sciences of the European Society of Cardiology (ESC). In addition, I was recently awarded a patent (US Patent No. 10,172,907, issued on 1/8/2019) on "Methods and Compositions for Therapeutic Modulation of Aldosterone Levels In Heart Disease", and currently have two more research patents under regulatory review. I also serve as associate editor of five peer-reviewed journals, including "Scientific Reports" published by Nature Publishing Group, "Pharmacology Research & Perspectives" of the British Pharmacological Society, and "International Journal of Molecular Sciences" published by MDPI. I have edited one textbook published by the esteemed "Springer Nature" company and authored chapters in several books published by the Elsevier publishing company. I also serve as a regular grant reviewer for the American Heart Association (Basic Cell GE2 peer review committee) and for the American Association of Colleges of Pharmacy (AACP) (New Investigator Award-NIA grant reviewer). Additionally, I serve as regular peer-reviewer for several prestigious scientific journals, including "British Journal of Pharmacology", "Scientific Reports", and "Circulation Research".

Finally, I have published in various prestigious scientific journals, headlined by my lead author original research publication in "Nature Medicine" in 2007 (for the full list of my >75 peer-reviewed publications see PubMed link below) and my current h-index is 29 (>3,000 total citations in Google Scholar, as of December 2019). I currently serve as NSU College of Pharmacy faculty at the Associate Professor level and mentor several PhD, PharmD, and DO students in cardiovascular research in my lab. I have supervised thirteen postgraduate and two undergraduate research students in the past, all of whom have completed their graduate (Pharm.D., D.O.) and bachelor's degrees, respectively. One of them in particular, who successfully completed her Pharm.D. program in May 2018, is currently a resident at the world-renowned Massachusetts General Hospital and she was awarded the prestigious American Foundation for Pharmaceutical Education (AFPE)'s National "Gateway to Research" Scholarship Award in 2017.
