Curriculum Vitae

Name: Srinivas M. Tipparaju
Address: 9106 Wilson Avenue, Louisville, KY 40242

Educational Qualifications:

2003: Post-doctoral fellow, Emory University, Atlanta, GA

2001: Ph.D. Biotechnology, Hamdard University, New Delhi; Division of Pharmacology, Central Drug Research Institute, Lucknow, India.

1998: Master of Pharmacy, Birla Institute of Technology and Science (BITS), Pilani, India.

1996: Bachelor of Pharmacy, Nagpur College of Pharmacy, Nagpur University, Nagpur, India.

Positions and Honors

Positions and Employment

July.2008-present: Instructor, Division of Cardiovascular Medicine, Department of Medicine, University of Louisville, Louisville, KY

Dec.2003-June.2008: Research Associate, Division of Cardiology, Department of Medicine, University of Louisville, Louisville, KY

Jan.2002-Nov.2003: Post-doctoral fellow, Todd Franklin Cardiac Research Laboratory, Department of Pediatrics, Childrens Research Center, Emory University, Atlanta, GA

April 1998-Sept.2001: Senior Research Fellow (Council for Scientific and Industrial Research, New Delhi, India), Division of Pharmacology, Central Drug Research Institute, Lucknow, India

July 1997- Dec.1997: Practice School trainee (Birla Institute of Technology and Science), Torrent Pharmaceutical Research Center, Gandhi nagar, India

Awards and Honors:

American Heart Association, Ohio Valley Affiliate-Post-doctoral fellowship
Senior Research Fellowship, CSIR, New Delhi, India.
Satu Somani Junior Scientist Award in Physiology 2004, Association of Scientists of Indian Origin in America (ASIOA)

Professional Membership:

2002-present Member, American Heart Association, Basic Cardiovascular Sciences
2002-present Member, Cardiac Electrophysiology Society
2007- Biophysical Society

Publications.

Journal Articles:

1. Barski OA, **Tipparaju SM**, Bhatnagar A.Kinetics of nucleotide binding to the β-subunit (AKR6A2) of the voltage-gated potassium (Kv) channel. Chem. Biol. Interact. In Press,

Accepted Manuscript.

2. Barski OA, **Tipparaju SM**, Bhatnagar A. The aldo-keto reductase superfamily and its role in drug metabolism and detoxification.Drug Metab Rev. 2008,40,553-624.

3. **Tipparaju SM**, Barski OA, Srivastava S, Bhatnagar A. Catalytic mechanism and substrate specificity of the beta-subunit of the voltage-gated potassium channel. Biochemistry. 2008,47,8840-8854.

4. Moshal KS, **Tipparaju SM**, Vacek TP, Kumar M, Singh M, Frank IE, Patibandla PK,Tyagi N, Rai J, Metreveli N, Rodriguez WE, Tseng MT, Tyagi SC. Mitochondrial matrix metalloproteinase activation decreases myocyte contractility in hyperhomocysteinemia. Am J Physiol Heart Circ Physiol. 2008 Aug;295(2):H890-H7.

5. **Tipparaju SM**, Liu SQ, Barski OA, Bhatnagar A. NADPH binding to β-subunit regulates inactivation of voltage-gated K^+ channels. Biochem Biophys Res Commun. 2007, 359, 269-276.

6. **Tipparaju SM**, Saxena N, Liu SQ, Kumar R, Bhatnagar A. Differential regulation of voltage-gated K^+ channels by oxidized and reduced pyridine nucleotide coenzymes. Am J Physiol Cell Physiol. 2005, 288, C366-76.

7. Wagner MB, Wang Y, Kumar R, **Tipparaju SM**, Joyner RW. Calcium transients in infant human atrial myocytes. Pediatr Res. 2005, 57, 28-34.

8. **Tipparaju SM**, Kumar R, Wang Y, Joyner RW, Wagner MB. Developmental differences in L-type calcium current of human atrial myocytes. Am J Physiol Heart Circ Physiol. 2004, 286, H1963-9.

9. Wang Y, Xu H, Kumar R, **Tipparaju SM**, Wagner MB, Joyner RW. Differences in transient outward current properties between neonatal and adult human atrial myocytes. J Mol. Cell. Cardiol. 2003, 35, 1083-92.

10. Bhatnagar A, Kumar R, **Tipparaju SM**, Liu SQ. Differential pyridine nucleotide coenzyme binding to the β-subunit of the voltage-sensitive K^+ channel: a mechanism for redox regulation of excitability. Chem. Biol. Interact. 2003, 143-144, 613-20.

Book Chapters:

1. **Tipparaju, S.M**., and Bhatnagar, A. Pipette Perfusion: Methods and Application. Patch-Clamp Analysis: Advanced Techniques. Vol. 38, Page 309-324. Editors: Wolfgang W., Boulton, A.A., and Baker, G.B. Humana Press, Totowa, New Jersey 2006.

2. **Tipparaju, S.M**., Bhatnagar, A., and Barski O.A. Catalytic activity of the β-subunits of the voltage-sensitive potassium channels and its regulation by pyridine nucleotides. Page 401-410. Enzymology and molecular biology of carbonyl metabolism 13, Editor: Weiner, H. Purdue University Press, West Lafayette, Indiana 2006.

Abstracts:

1. **Tipparaju SM**, Barski, OA, Bhatnagar, A. Mechanism of enzymatic activity of β-subunit of voltage-gated potassium channels. Biophysical Society Meeting, Long Beach, CA, 2008.
2. Barski, OA, **Tipparaju SM**, Bhatnagar, A. Pyridine nucleotide dependent Kv inactivation and mathematical modeling of subunits. Biophysical Society Meeting, Long Beach, CA, 2008.
3. **Tipparaju SM**, Vila, E., Bhatnagar, A., and Barski, OA. Role of Nucleotide Binding and Catalysis in Regulating β-Subunit Mediated Inactivation of Voltage-Gated K^+ channels. Circulation; Abs, 2006.
4. **Tipparaju SM**, Liu SQ, Barski OA, Bhatnagar A. Redox regulation of voltage-gated potassium channel Kv1.5 by β-subunits: Differential effects of Kvβ1.3 and 2.1. Circulation;112, supplement II 17 (Abs. #548) 2005.
5. **Tipparaju, SM**, Kumar R, Liu SQ, Bhatnagar A. Pyridine coenzyme binding to Kv-β proteins imparts redox-sensitivity to Kv channels. Circulation; 110, supplement III 62 (Abs. # 286) 2004.
6. Kumar R, Liu SQ, **Tipparaju, S.M.**, Bhatnagar A. Regulation of Kv channel activity by differential pyridine nucleotide binding to β-subunits. North American Society for Pacing and Electrophysiology (NASPE) meeting: Washington D.C., May 2003.
7. **Tipparaju SM**, Liu SQ, Bhatnagar A, Kumar R. Protein Kinase C dependent phosphorylation regulates Kvα1.5 channel function. Experimental Biology 2003, San Diego CA.
8. Bhatnagar A, **Tipparaju SM**, Liu SQ, Kumar R. Pyridine nucleotide coenzymes regulate inactivation of voltage sensitive potassium channels by β-subunits. Circulation, supplement II, 106, 19 II-47 (Abs. # 233) 2002.
9. **Tipparaju SM**, Jain SK, Dubey MP, Ray M. Evaluation of ischemia-reperfusion injury in hypertrophic rat hearts Functional and cellular level alterations. Indian J Pharmacol*;* 33, 301, (Abs.# 209), 2001.
10. **Tipparaju SM**, Jharna A, Dubey MP. Endothelial cells as a target for altered vascular response in pressure overload cardiac hypertrophy. Indian J Pharmacol; 32: 80 (Abs. # 161), 2000.
11. **Tipparaju SM**, Dubey MP, Jharna A, Ray M. Studies on various interventions related to hypertrophic rat heart preparation. Indian J Pharmacol; 31: 46 (Abs. # 27), 1999.
12. Ray M, Chandra R, **Srinivas T**, Dubey MP. Role of nitric oxide and free oxygen radicals in ischaemia reoxygenation in aortas from hypertensive rats. Indian J Pharmacol; 31: 46 (Abs. # 25), 1999.

Research Support.

Completed Projects:

0425439B AHA post-doctoral fellowship Tipparaju (PI) $82,000
07/01/04-06/30/06
AHA-Ohio Valley Affiliate
Redox regulation of Voltage-sensitive potassium channels
The aim of this project is to examine how pyridine coenzymes regulate the Kv currents and whether the binding of the coenzymes to Kvβ-subunit changes the gating properties of Kv currents.

SRF (CSIR, New Delhi): Pre-doctoral fellowship Tipparaju (PI)
04/28/1998- 09/0/2001
Role of Nitric oxide in pressure-overload cardiac hypertrophy
Aim of the pre-doctoral dissertation work was to determine the differential effects of nitric oxide pathway mediators on hypertrophic rat hearts

Current Projects:
AHA Beginning grant-in-aid Great Rivers Affiliate Tipparaju (PI) 121,000
07/01/2008-06/30/2010
Regulation of voltage-gated potassium channel by Kvβ in the heart
The aim of this project is to investigate the role of Kvβ subunits for metabolic regulation and oxygen-sensing in the heart