

## Publications:

- 1) Khuong N, **Mishra M\***, Banga S, Howlett SE. Angiotensin II promotes ventricular fibrosis and systolic dysfunction more in aging male mice than in females. **GeroScience** 7<sup>th</sup> Nov 2025, (\*First Co-author).
- 2) **Mishra M**, Wu J, Kane AE, Howlett SE. The Intersection of Frailty and Metabolism. **Cell Metab.** 2024 May 7;36(5):893-911
- 3) Banga S, **Mishra M**, Heinze-Milne S, Hailey J. Jansen, Robert A Rose, Howlett SE, Chronic testosterone deficiency increases late inward sodium current and promotes 3 triggered activity in ventricular myocytes from aging male mice. **Am J Physiol Heart Circ Physiol** 325: H264–H277, 2023.
- 4) **Mishra M**, Howlett SE. Reference Genes in Aging Tissues: What are you referring To ? (Editorial). **AGING** 2023, Vol. 15, Advance.
- 5) **Mishra M**, Kane AE, Young AP, Howlett SE. Age, sex, and frailty modify the expression of common reference genes in skeletal muscle from ageing mice. **Mech Ageing Dev.** 2022 Dec 9; 210:111762.
- 6) Prasad K, **Mishra M**. Mechanism of Hypercholesterolemia-Induced Atherosclerosis. **Rev. Cardiovasc. Med.** 2022; 23(6): 212.
- 7) **Mishra M**, Howlett SE. Preclinical models of frailty: focus on interventions and their translational impact. **Nutrition and Healthy Aging** 2021, vol.6 no.1 17-33.
- 8) Tiwari S, **Mishra M**, Salemi MR, Phinney BS, Newens JL, Gomes AV. Gender-specific changes in energy metabolism and protein degradation as major pathways affected in livers of mice treated with ibuprofen. **Sci Rep.** 2020 Feb 25;10(1):3386.
- 9) **Mishra M**, Tiwari S, Gunaseelan A, Li D, Hammock BD, Gomes AV. “Improving the sensitivity of traditional Western blotting via streptavidin containing poly horseradish peroxidase (PolyHRP)” **Electrophoresis**, 2019 Apr 25.
- 10) Prasad K, **Mishra M**. AGE-RAGE stress, stressors, and anti-stressors in health and disease. **Int J Angiol.** 2018 Mar;27(1):1-12.
- 11) **Mishra M**, Tiwari S, Gomes AV. Protein purification and analysis: next generation Western blotting techniques. **Expert Rev Proteomics.** 2017 Nov;14(11):1037-1053.
- 12) Prasad K, **Mishra M**. Do advanced glycation-end products and its receptor play a role in pathophysiology of hypertension? **Int J Angiol.** 2017 Mar;26(1):1-11.

- 13) **Mishra M**, Ndisang JF. A critical and comprehensive insight on heme oxygenase and related products including carbon monoxide, bilirubin, biliverdin and ferritin in type-1 and type-2 diabetes. **Curr Pharm Des.** 2014; 20(9):1370-91.
- 14) Ndisang JF, Jadhav A, **Mishra M**. The heme oxygenase system suppresses perirenal visceral adiposity, abates renal inflammation and ameliorates diabetic nephropathy in Zucker diabetic fatty rats. **PLoS One.** 2014 Jan 30; 9(1): e87936.
- 15) Ndisang JF, **Mishra M**. The heme oxygenase system selectively suppresses the proinflammatory macrophage m1 phenotype and potentiates insulin signaling in spontaneously hypertensive rats. **Am J Hypertens.** 2013 Sep; 26(9):1123-31.
- 16) Tiwari S, **Mishra M**, Jadhav A, Gerger C, Lee P, Weber L, Ndisang JF. The risk of heart failure and cardiometabolic complications in obesity may be masked by an apparent healthy status of normal blood glucose. **Oxid Med Cell Longev.** 2013; 2013:253657.
- 17) Salley TN, **Mishra M**, Tiwari S, Jadhav A, Ndisang JF. The heme oxygenase system rescues hepatic deterioration in the condition of obesity co-morbid with type-2 diabetes. **PLoS One.** 2013 Nov 15;8(11): e79270.
- 18) Krüger K, Agnischock S, Lechtermann A, Tiwari S, **Mishra M**, Pilat C, Wagner A, Tweddell C, Gramlich I, Mooren FC. Intensive resistance exercise induces lymphocyte apoptosis via cortisol and glucocorticoid receptor-dependent pathways. **J Appl Physiol.** 2011, May; 110(5):1226-32.
- 19) Nagarajan M, Kumar N, Nishanth G, Haribaskar R, Paranthaman K, Gupta J, **Mishra M**, Vaidhegi R, Kumar S, Ranjan AK, Kumar S. Microsatellite markers of water buffalo, *Bubalus bubalis*-development, characterization, and linkage disequilibrium studies. **BMC Genet.** 2009, Oct 21; 10:68.

## Book Chapters

**Mishra M**, Howlett SE. **Preclinical Models of Frailty** in "Frailty - A Multidisciplinary Approach to Assessment, Management, and Prevention. **Springer Publishing Company, 2024.** Ed. Jorge G. Ruiz, Olga Theou. ISBN: 9783031573606.

**Mishra M**, Ribeiro AR, Howlett SE. **"Frailty Indices"**. Studying Ageing and Disease in Laboratory Mice: A Handbook. **Elsevier Science, 2023.** Ed. Dr. Paul K Potter and Dr. Ilaria Bellantuono. ISBN: 9780128240182.

**Mishra M**, Gomes AV. **"Ubiquitin- Latest research and new direction"** Ubiquitin Proteasome System: A Review and Directions for Research 2018, **Nova Science Publishers**, Hauppauge NY, U.S.A ISBN: 9781536135183.

## Abstracts

- 1) **Mishra M**, Khuong N, Banga S and Howlett SE. Chronic angiotensin II infusion promotes sex-specific ventricular remodeling in aged mouse hearts. XLIII ISHR-NAS 2024 meeting, Long Beach, USA, Aug 19-24, 2024.
- 2) **Mishra M**, Khuong N, Banga S and Howlett SE. Chronic Infusion of Angiotensin II Promotes Ventricular Fibrosis and Diastolic Dysfunction in Aging Male but Not Female Mouse Hearts. *Circulation Research*. Volume 133, Number Suppl 1, 13 October 2023. (Abstract P3124)
- 3) **Mishra M**, Kane AE, Howlett SE. **Enalapril reduces frailty and increases MAPK expression in heart and muscle in aging male mice, even when drug is deprescribed.** 41<sup>st</sup> North American Meeting of the International Society of Heart Research and 9th International Academy of Cardiovascular Sciences, Winnipeg, Canada, September 6-9, 2022.
- 4) **Mishra M**, Howlett SE. **Impact of age and sex on the expression of common reference genes in ventricular muscle from aging C57BL/6 mice.** 41<sup>st</sup> North American Meeting of the International Society of Heart Research and 9th International Academy of Cardiovascular Sciences, Winnipeg, Canada, September 6-9, 2022.
- 5) Tiwari S, **Mishra M**, Gunaseelan A, Li D, Hammock BD, Gomes AV. **Improving Western blotting sensitivity for detection of intracellular changes caused by xenobiotics.** Superfund Research Program, Annual Meeting, Sacramento, USA, Nov. 28-30, 2018
- 6) **Manish M** and Ndisang JF. **Upregulating heme oxygenase system potentiates pancreatic repair by enhancing proteins of regeneration.** FASEB J April 2016.
- 7) **Mishra M** and Ndisang JF. **Heme oxygenase and pancreatic regeneration.** Canadian Hypertension Congress, Toronto, October 22-24, 2015.
- 8) Ndisang JF and **Mishra M**. **Heme oxygenase selectively attenuates pro-inflammatory pathways and potentiate insulin-signaling in spontaneously hypertensive rats.** Canadian Hypertension Congress, Montreal, October 17-19, 2013.
- 9) Ndisang JF and **Mishra M**. **The heme oxygenase system suppresses macrophage infiltration and potentiates insulin signaling in spontaneously hypertensive rats.** 11th Annual World Congress on Insulin Resistance, Diabetes & Cardiovascular Disease, November 7-9, 2012.
- 10) **Mishra M**, Tiwari S, Krüger K, Mooren F.C. **Effects of long time voluntary free wheel running exercise training on apoptosis and cell proliferation of splenic**

**lymphocytes in aging mice.** 3rd annual conference of GGL, Department of Sports Medicine, Justus-Liebig-University, Giessen, Germany, 29-30 Sep;2010.

- 11) Tiwari S, **Mishra M**, Krüger K, Mooren F.C. **Effects of a single bout of exercise on murine bronchoalveolar macrophages activation, differentiation, and apoptosis.** 3rd annual conference of GGL, Department of Sports Medicine, Justus-Liebig-University, Giessen, Germany, 29-30 Sep; 2010.

### **Poster Presentation**

- **Mishra M**, Khuong N, Banga S and Howlett SE. Chronic angiotensin II infusion promotes sex-specific ventricular remodeling in aged mouse hearts. 43<sup>rd</sup> ISHR-NAS 2024 meeting, Long Beach, USA, Aug 19-24, 2024.
- **Mishra M**, Khuong N, Banga S and Howlett SE. Chronic infusion of angiotensin II promotes ventricular fibrosis and diastolic dysfunction in ageing male but not female mouse hearts. Basic Cardiovascular Sciences meeting 2023. July 31-Aug 3, 2023, Boston, Massachusetts, USA.
- **Mishra M**, Kane AE, Howlett SE. Enalapril reduces frailty and increases MAPK expression in heart and muscle in aging male mice, even when drug is deprescribed. 41<sup>st</sup> ISHR-NAS 2023 meeting, Winnipeg, Canada, Sep.6-9, 2022.
- **Mishra M**, Howlett SE. Impact of age and sex on the expression of common reference genes in ventricular muscle from aging C57BL/6 mice. 41<sup>st</sup> ISHR-NAS 2023 meeting, Winnipeg, Canada, Sep 6-9, 2022, Winnipeg, Canada.
- **Mishra M**, Ndisang JF. Up-regulating Heme Oxygenase System Potentiates pancreatic repair by enhancing proteins of regeneration. Experimental Biology Conference, San Diego, USA, April 2016.
- **Mishra M**, Ndisang JF. Heme oxygenase and pancreatic regeneration. Canadian Hypertension Congress, Toronto, Oct 22-24, 2015.
- **Mishra M**, Heme oxygenase selectively attenuates pro-inflammatory pathways and potentiates insulin-signaling in spontaneously hypertensive rats. Canadian Hypertension Congress, Montreal, October 17-19, 2013 (Oral Presentation)