## Extracellular Matrix Disarray as A Mechanism for Greater Abdominal vs. Thoracic Aortic Stiffness with Aging in Primates

Jie Zhang<sup>1</sup>, MS; Xin Zhao<sup>1</sup>, PhD; Dorothy E Vatner<sup>1</sup>, MD; Tara McNulty<sup>1</sup>, BSc; Sanford Bishop<sup>1</sup>, PhD; Zhe Sun<sup>2</sup>, PhD; You-Tang Shen<sup>1</sup>, MD; Li Chen<sup>1</sup>, MD; Gerald A Meininger<sup>2</sup>, PhD; Stephen F Vatner<sup>1</sup>, MD

<sup>1</sup>Cardiovascular Research Institute, Department of Cell Biology and Molecular Medicine, Rutgers-New Jersey Medical School, Newark, NJ

<sup>2</sup>Dalton Cardiovascular Research Center, Department of Medical Pharmacology and Physiology, University of Missouri, Columbia, MO

Running Title: Regional Aortic Stiffness in Aging Primates

## **Corresponding Author:**

Stephen F. Vatner, MD

Dept. of Cell Biology & Molecular Medicine

Rutgers-New Jersey Medical School

Newark, NJ 07103

Phone: (973) 972-1327

Fax: (973) 972-7489

vatnersf@njms.rutgers.edu

Key Words: hypertension, aortic stiffness, aging, collagen, elastin, non-human primates

Journal Subject codes: [97] Other Vascular biology

## SUPPLEMENTAL MATERIAL.

## **Supplemental Figure I**



Supplemental Fig. I: To determine if only measuring thoracic aortic pressure, while measuring both thoracic and abdominal aortic diameter, affected the calculations of thoracic and abdominal stiffness, the measurements of regional stiffness in the conscious state with only the implanted thoracic aortic pressure were compared with measurements of regional stiffness with thoracic and abdominal pressures both measured with a Millar micromanometer introduced into the thoracic and abdominal aorta after sedation with ketamine. The stiffness calculations with only thoracic and with both thoracic and abdominal pressure measurements showed a highly linear correlation ( $r^2$ =0.97).