

Materials List for:

Measuring Ascending Aortic Stiffness *In Vivo* in Mice Using Ultrasound

Maggie M. Kuo¹, Viachaslau Barodka², Theodore P. Abraham³, Jochen Steppan², Artin A. Shoukas¹, Mark Butlin⁴, Alberto Avolio⁴, Dan E. Berkowitz^{1,2}, Lakshmi Santhanam^{1,2}

¹Department of Biomedical Engineering, Johns Hopkins University

²Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University

³Department of Medicine (Cardiology), Johns Hopkins University

⁴The Australian School of Advanced Medicine, Macquarie University

Correspondence to: Lakshmi Santhanam at lsantha1@jhmi.edu

URL: <https://www.jove.com/video/52200>

DOI: [doi:10.3791/52200](https://doi.org/10.3791/52200)

Materials

Name	Company	Catalog Number	Comments
Equipment			
High-resolution ultrasound machine	Visual Sonics	Vevo2100	
13-24 MHz transducer	Visual Sonics	MS250	Used for imaging rats
22-55 MHz transducer	Visual Sonics	MS550D	Used for imaging mice
Imaging Station	Visual Sonics	Imagine Station 1	
1.2F Pressure catheter	Transonic	FTH-1211B-0018	
SP200 pressure control unit	Transonic	FFS-095-DP01	
Standard Infusion Only Harvard Pump 11 Plus syringe pump	Harvard Apparatus	702208	
Isoflurane vaporizer	VetEquip	911103	
Induction chamber	VetEquip	941443	
100% O ₂	Airgas	OX USP200	
Single Stage Brass 0-50 psi General Purpose Cylinder Regulator CGA540	Airgas	Y11215B540	
Stereo Boom Stand Microscope	National Optical	420-BMSQ	
Fiber optic illuminator & light pipe	Cole Palmer	EW-41500-50	
Supplies			
30G x 1/2" BD PrecisionGlide Needle	BD	305106	For tail vein cannulation in mice
Polyethylene Tubing PE10	Becton Dickinson	427401	For tail vein cannulation in mice
27G x 1/2" Surfloe winged infusion set	Terumo	SV*27EL	For tail vein cannulation in rats
Signa Gel Electrode Gel	Parker	15-25	Use for ECG recording
Aquasonic Clear Ultrasound Gel	Parker	03-08	Use for ultrasound
1ml Sub-Q Syringes, 26G x 5/8"	BD	309597	
Nair	Nair		Depilatory cream
Histoacryl	TissueSeal	TS1050071FP	Tissue glue
Braided Silk Suture 6-0	Teleflex	104-S	
Dumostar P55 fine forceps	Roboz	RS-4984	
Microscissors	WPI	501839	
Fine scissors	FST	14060-11	
Medium forceps	Ted Pella	5665	

Hemostatic forceps	Roboz	RS-7131	
Non-sterile cotton gauze sponge	Fisherbrand	22-362-178	
Cotton tipped applicators	Oritan	803-WC	
Label tape	Fisherbrand	15-901-20	
Drugs			
Sodium chloride	Sigma Aldrich	S7653	
R-Phenylephrine hydrochloride	Sigma Aldrich	P6126	
Sodium nitroprusside dihydrate	Sigma Aldrich	71778	
Software			
Prism	GraphPad		
Excel	Microsoft		