

Materials List for:

Calcification of Vascular Smooth Muscle Cells and Imaging of Aortic Calcification and Inflammation

Caitlin O'Rourke^{*1}, Georgia Shelton^{*1,2}, Joshua D. Hutcheson^{3,4}, Megan F. Burke², Trejeeve Martyn¹, Timothy E. Thayer², Hannah R. Shakartzi¹, Mary D. Buswell¹, Robert E. Tainsh¹, Binglan Yu^{1,4}, Aranya Bagchi^{1,4}, David K. Rhee^{2,4}, Connie Wu^{1,2,4}, Matthias Derwall⁵, Emmanuel S. Buys^{1,4}, Paul B. Yu^{3,4}, Kenneth D. Bloch^{1,2,4}, Elena Aikawa^{3,4}, Donald B. Bloch^{1,5,6}, Rajeev Malhotra^{2,4}

¹Anesthesia Center for Critical Care Research of the Department of Anesthesia, Critical Care, and Pain Medicine, Massachusetts General Hospital

²Cardiovascular Research Center and Cardiology Division of the Department of Medicine, Massachusetts General Hospital

³Cardiovascular Division, Brigham and Women's Hospital

⁴Harvard Medical School

⁵Department of Anesthesiology, Uniklinik RWTH Aachen, RWTH Aachen University

⁶Center for Immunology and Inflammatory Diseases and the Division of Rheumatology, Allergy, and Immunology of the Department of Medicine, Massachusetts General Hospital

* These authors contributed equally

Correspondence to: Rajeev Malhotra at rmalhotra@mgh.harvard.edu

URL: <https://www.jove.com/video/54017>

DOI: [doi:10.3791/54017](https://doi.org/10.3791/54017)

Materials

Name	Company	Catalog Number	Comments
15 ml conical tube	Falcon	352096	
30 G needle	BD	305106	
Alpha smooth muscle actin antibody	Sigma	SAB2500963	
Chamber slide	Nunc Lab-Tek	154461	
Collagenase, Type 2	Worthington	LS004176	
Dexamethasone	Sigma	D4902	
Dulbecco's Modified Eagle Medium	Life Technologies	11965-084	
Dulbecco's Phosphate Buffered Saline, no calcium	Gibco	14190-144	
Elastase	Sigma	E1250	
Fetal bovine serum	Gibco	16000-044	
Forceps, fine point	Roboz	RS-4972	
Forceps, full curve serrated	Roboz	RS-5138	
Formalin (10%)	Electron Microscopy Sciences	15740	
Hank's Balanced Salt Solution	Gibco	14025-092	
Human coronary artery smooth muscle cells	PromoCell	C-12511	
Insulin syringe with needle	Terumo	SS30M2913	
L-ascorbic acid	Sigma	A-7506	
Micro-dissecting spring scissors (13 mm)	Roboz	RS-5676	
Micro-dissecting spring scissors (3 mm)	Roboz	RS-5610	
NIR, cathepsin (ProSense-750EX)	Perkin Elmer	NEV10001EX	
NIR, osteogenic (OsteoSense-680EX)	Perkin Elmer	NEV10020EX	
Normal Saline	Hospira	0409-4888-10	
Nuclear fast red	Sigma-Aldrich	N3020	

Odyssey Imaging System	Li-Cor	Odyssey 3.0	
Penicillin/Streptomycin	Corning	30-001-CI	
Silver nitrate (5%)	Ricca Chemical Company	6828-16	
Sodium phosphate dibasic heptahydrate	Sigma-Aldrich	S-9390	
Sodium thiosulfate	Sigma	S-1648	
β -glycerophosphate disodium salt hydrate	Sigma	G9422	
Tissue culture flask, 25 cm ²	Falcon	353108	
Tissue culture plate (35 mm x 10 mm)	Falcon	353001	
Tissue culture plate, six-well	Falcon	353046	
Trypsin	Corning	25-053-CI	
Tube rodent holder	Kent Scientific	RSTR551	
Vacuum-driven filtration system	Millipore	SCGP00525	