

Materials List for:

Procedure for Lung Engineering

Elizabeth A. Calle*¹, Thomas H. Petersen*², Laura E. Niklason^{1,3}

¹Department of Biomedical Engineering, Yale University

²Department of Biomedical Engineering, School of Medicine, Duke University

³Department of Anesthesia, Yale University

*These authors contributed equally

Correspondence to: Laura E. Niklason at laura.niklason@yale.edu

URL: <https://www.jove.com/video/2651>

DOI: [doi:10.3791/2651](https://doi.org/10.3791/2651)

Materials

Name	Company	Catalog Number	Comments
Euthanasia			
Heparin	Sigma-Aldrich	H4784	
Sodium nitroprusside	Fluka	71778	
Euthasol euthanasia solution	Virbac Animal Health	710101	390 mg/ml pentobarbital sodium stock solution should be diluted appropriately for IP administration
Decell Solution			
CHAPS	Sigma-Aldrich	C3023	
NaCl	American Bioanalytical	AB01915	
EDTA	Sigma-Aldrich	E5134	
NaOH	JT Baker	3722-01	
1X PBS	GIBCO, by Life Technologies	14190	
Bioreactor Components			
480 ml jar	Cole-Parmer	EW-3460560	
Silicone stopper, size 14	Cole-Parmer	EW-06298-26	
Y-connectors	Cole-Parmer	ED-30614-08	Used for arterial and tracheal cannulae
Silicone tubing	Masterflex (Cole Palmer)	96420-14; 16	L/S 14; 16
Pressure Transducers	Edwards Lifesciences	PX-212	
Check valve	Cole-Parmer	EW-98553-20	One-way valve
4-way stopcocks	Edwards Lifesciences	594WSC	
Syringe filter	Cole-Parmer	2915-08	PTFE, 0.2µm
Decell and rinsing apparatus (additions to bioreactor)			
500 and 1000 ml glass bottles	Corning	1395-500; -1L	Used for decell and rinsing by gravity
Benzonase Treatment			
Penicillin/streptomycin	GIBCO, by Life Technologies	15140122	
FBS	Hyclone	SH30071.03	
Tris-HCl	American Bioanalytical	AB14043	1M, pH 8.0
MgCl ₂	JT Baker	2444-01	
BSA	Sigma-Aldrich	A9647	
Benzonase Nuclease	Sigma-Aldrich	E1014	Endonuclease used to remove remnant DNA from matrix