

Materials List for:

Adapting the Electrospinning Process to Provide Three Unique Environments for a Tri-layered *In Vitro* Model of the Airway Wall

Jack C. Bridge¹, Jonathan W. Aylott², Christopher E. Brightling⁵, Amir M. Ghaemmaghami³, Alan J. Knox⁴, Mark P. Lewis⁶, Felicity R.A.J. Rose¹, Gavin E. Morris¹

¹Division of Drug Delivery and Tissue Engineering, University of Nottingham

²Laboratory of Biophysics and Surface Analysis, School of Pharmacy, University of Nottingham

³Division of Immunology and Allergy, School of Molecular Medical Sciences, University of Nottingham

⁴Division of Respiratory Medicine, School of Clinical Sciences, University of Nottingham

⁵NIHR Respiratory Biomedical Research Unit, University of Leicester

⁶School of Sport, Exercise, and Health Sciences, Loughborough University

Correspondence to: Gavin E. Morris at gem8@leicester.ac.uk

URL: <https://www.jove.com/video/52986>

DOI: [doi:10.3791/52986](https://doi.org/10.3791/52986)

Materials

Name	Company	Catalog Number	Comments
Polyethylene terephthalate (PET)	Lucozade (GSK) bottles	N/A	Source of PET for electrospinning. Cut into small pieces and weigh out as necessary
Dichloromethane (DCM)			Solvent for PET
Trifluoroacetic acid (TFA)	Sigma		Solvent for PET
Rotating Mandrel	Built in house		Used to collect electrospun fibres. By rotating at different speeds, fibres can be aligned or randomly oriented
Syringe Pump	Harvard apparatus		used in the electrospinning process
DMEM-F12	Gibco		Culture medium for CALU3 cells
DMEM	Gibco		Culture medium for HASM cells
MEM	Gibco		Culture medium for MRC5 cells
Antibiotic/ antimycotic solution	Gibco		Media supplement
FCS	Gibco		Media supplement
Orbital mixer (Orbital shake 503)	Stuart Scientific		For dynamic seeding of cells onto microfibre scaffolds
Peristaltic Pump	Watson Marlow		For providing media flow through bioreactor
3DKube	Kiyatec		Bioreactor for 3D cell culture