

Materials List for:

A 3D Human Lung Tissue Model for Functional Studies on *Mycobacterium tuberculosis* Infection

Clara Braian¹, Mattias Svensson², Susanna Brighenti², Maria Lerm¹, Venkata R. Parasa^{1,2}

¹Department of Clinical and Experimental Medicine, Linköping University

²Department of Medicine, Karolinska Institute

Correspondence to: Maria Lerm at maria.lerm@liu.se

URL: <https://www.jove.com/video/53084>

DOI: [doi:10.3791/53084](https://doi.org/10.3791/53084)

Materials

Name	Company	Catalog Number	Comments
Cell culture inserts	BD Falcon	353092	
6-well culture plates	BD Falcon	353046	
MRC-5 cells, lung fibroblasts			ATCC#CCL-171
16HBE cells, lung epithelial cells			Gift from Dr. Dieter Gruenert, Mt. Zion Cancer Center, University of California, San Francisco, USA
5 x Dulbecco's modified Eagle's medium (5 x DMEM)	Gibco	12800-082	Made from powder but add 5 times less water. Adjust pH to 7.3 and filter it using a 0.2 µm filter.
Dulbecco's modified Eagle's medium with glucose (DMEM) 1x	Gibco	41965-039	
Minimum Essential Medium (MEM) 1x with Earle's salts	Sigma	M4655	
Non-Essential Amino Acids Solution, 100x	Life Technologies	11140-035	
L-glutamine 200 mM (100x)	Gibco	25030-024	
Sodium Pyruvate	Life Technologies	11360-039	
NaHCO ₃ (71.2 mg/ml)			Prepared in house
Heat inactivated Fetal Bovine Serum (FBS)	Gibco	10270-106	Heat inactivated for 30 min, 56 °C
Gentamicin (50 mg/ml)	Gibco	15750-060	
Hepes buffer solution 1M	Gibco	15630-056	
Penicillin Streptomycin (Pen Strep)	Gibco	15140-122	
Lymphoprep	Axis-Shield	7801	
Ultrapure 0.5 M EDTA	Gibco	15575	
Bovine Collagen PA treated (500 ml)	Organogenesis	200-055	
Pure col purified Bovine Collagen solution (100 ml)	Advanced biomatrix	5005-B	
Extracellular matrix protein, Fibronectin (1 mg)	BD	354008	
Primary human monocytes/macrophages			Isolated from human whole blood or buffy coats.
PKH26 Red fluorescent cell linker	Sigma	MINI26	
Mycobacterium tuberculosis H37Rv expressing green fluorescent protein			M. tuberculosis H37Rv wild type was transformed with the pFPV2 plasmid constitutively expressing GFP.

Middlebrook 7H9 medium	Difco	271310	
BBL Middlebrook ADC Enrichment	BBL	211887	
Tween-80			
Glycerol			
Kanamycin B sulfate (20 µg/ml)	Sigma	B5264	
Prolong Gold anti-fade reagent with DAPI	Invitrogen	P36935	
Trypsin -EDTA			
Bovine serum albumin			
Paraformaldehyde			
DAPI			
LSM700 Confocal microscope	Zeiss		
iMaris Scientific 3D/4D image processing software, version 7.6.8	Bitplane AG		