

Materials List for:

# How to Study Basement Membrane Stiffness as a Biophysical Trigger in Prostate Cancer and Other Age-related Pathologies or Metabolic Diseases

Mercedes Rodriguez-Teja<sup>1</sup>, Claudia Breit<sup>2</sup>, Mitchell Clarke<sup>3</sup>, Kamil Talar<sup>3</sup>, Kai Wang<sup>3</sup>, Mohammad A. Mohammad<sup>3</sup>, Sage Pickwell<sup>3</sup>, Guillermina Etchandy<sup>1</sup>, Graeme J. Stasiuk<sup>3</sup>, Justin Sturge<sup>3</sup>

<sup>1</sup>Departamento de Genética, Facultad de Medicina, Universidad de la República (UDELAR)

<sup>2</sup>Department of Mechanistic Cell Biology, Max Planck Institute of Molecular Physiology

<sup>3</sup>School of Biological, Biomedical & Environmental Sciences, University of Hull

Correspondence to: Justin Sturge at [J.Sturge@hull.ac.uk](mailto:J.Sturge@hull.ac.uk)

URL: <https://www.jove.com/video/54230>

DOI: [doi:10.3791/54230](https://doi.org/10.3791/54230)

## Materials

Name	Company	Catalog Number	Comments
<b>I - Material for monolayer culture</b>			
BPH-1	CaP Cell Line Database	PCaCL-132	Contact: <a href="mailto:simon.hayward@mcm.vanderbilt.edu">simon.hayward@mcm.vanderbilt.edu</a>
Complete keratinocyte serum-free media	ThermoFisher Scientific	17005-075	Do not warm at 37 °C before use
Fetal calf serum	First Link UK Ltd	02-00-850	Store at -20 °C in aliquots
PC3	American Type Culture Collection	CRL-1435	
Penicillin/streptomycin	ThermoFisher Scientific	15070-063	
Phosphate Buffer Saline (Dulbecco A) tablets	Oxoid	BR0014G	
RPMI 1640 medium	Sigma-Aldrich	R5886	warm in 37 °C water bath before use
RWPE-1	American Type Culture Collection	CRL-11609	
Trypsin-EDTA solution	Sigma-Aldrich	T4049	
Name	Company	Catalog Number	Comments
<b>II - Material for 3D culture</b>			
Acetonitrile	Sigma-Aldrich	271004	
Aminoguanidine hydrochloride	Sigma-Aldrich	396494	Irritating to eyes, respiratory system and skin
Chamber slides, 8-well	Thermo Scientific Nunc Lab-Tek	TKT-210-816M	
Culture Matrix reconstituted basement membrane (rBM) reduced growth factor extract	AMS Biotechnology	3445-005-01	Store Basement membrane (BM) at -80 °C in aliquots
Cyanogen bromide	Sigma-Aldrich	C91492	Toxic by contact skin and inhalation
Formic acid	Sigma-Aldrich	695076	
Glycine ethyl ester hydrochloride (GEE)	Sigma-Aldrich	50060	Irritating to eyes
Glycolaldehyde dimer (GLA)	Sigma-Aldrich	G6805	
Sodium cyanoborohydride	Sigma-Aldrich	71435	Highly flammable; Toxic by contact skin and inhalation
Syringe filter 0.22 microns	Appleton Woods	BC680	
Name	Company	Catalog Number	Comments
<b>III - Material to quantify Maillard reaction</b>			

4',6-diamidino-2-phenylindole (DAPI)	ThermoFisher Scientific	D3571	light sensitive and store at -20 °C in aliquots
Cloning cylinders	Sigma-Aldrich	C1059	
Goat anti-mouse IgG (H+L) Alexa Fluor 488 conjugate	ThermoFisher Scientific	A-11001	light sensitive
Goat anti-rabbit IgG (H+L) Alexa Fluor 488 conjugate	ThermoFisher Scientific	A-11034	light sensitive
Goat serum	Abcam	ab7481	Store at -20 °C in aliquots
Vectashield mounting media	Vector Laboratories	H-1000	
Mouse anti-pentosidine clone PEN-12 mAb	TransGenic Inc	KH012	
Paraformaldehyde (PFA)	Sigma-Aldrich	F8775	Store at -20 °C in aliquots
Rabbit anti-human collagen IV polyclonal antibody	Acris Antibodies	R1041	Store at -20 °C in aliquots
Rabbit anti-laminin A/C pAb	Santa Cruz Biotechnology Inc	sc-7292	Store at -20 °C in aliquots
Polyethylene glycol tert-octylphenyl ether (Triton-X100)	Sigma-Aldrich	T9284	
Polyethylene glycol sorbitan monolaurate (Tween-20)	Sigma-Aldrich	P1379	
Dialysis cassette Slide-A-Lyzer	ThermoFisher Scientific	66333	
<b>Name</b>	<b>Company</b>	<b>Catalog Number</b>	<b>Comments</b>
<b>IV - Equipment</b>			
ARG2 controlled strain rotational rheometer	T.A. Instruments		
Axiovert S100 (20X magnification) microscope	Zeiss		
CO2 controlled humidified incubation chamber for Zeiss Axio S100 microscope	Solent Scientific		
Confocal Axiovert 200M (40X, 63X magnification) microscope	Zeiss		
Olympus LH50A microscope fitted with a digital camera using phase-contrast	Olympus		
PHERASTAR Plus plate reader spectrophotometer	BMG Labtech		
<b>Name</b>	<b>Company</b>	<b>Catalog Number</b>	<b>Comments</b>
<b>V - Software</b>			
Image J 1.47v	National Institute of Health, USA		
MetaXpress	Molecular Devices		