

Materials List for:

Handling and Assessment of Human Primary Prostate Organoid Culture

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Materials

Name	Company	Catalog Number	Comments
Cells of interest			
Keratinocyte-SFM (KSFM)	ThermoFisher Scientific	17005042	
Fetal Bovine Serum, charcoal stripped, USDA-approved regions (FBS)	ThermoFisher Scientific	12676029	
5 α -Dihydrotestosterone (DHT)	Sigma-Aldrich	D-073-1ML	
Flat bottom, polystyrene 96-well cell culture treated plate	ThermoFisher Scientific	161093	
Matrigel (matrix gel)	Corning	Various	Matrix-gel: growth Factor Reduced, Phenol-red free, etc. depending on application
Ice Bucket			
Cell Culture Hood			
1.5 mL micro-centrifuge tubes or 15 mL conical	ThermoFisher Scientific	05-408-130, 339650	
Centrifuge			
Dispase (neutral protease)	STEMCELL Technologies	7923	neutral protease
Hanks' balanced salt solution (HBSS)	ThermoFisher Scientific	14025076	
TrypLE Express (cell dissociation enzymes)	ThermoFisher Scientific	12605036	Cell dissociation enzymes (trypsin may also work, depending on cell type, but TrypLE is more gentle and recommended for primary cells)
TRIzol	ThermoFisher Scientific	15596018	suggested RNA extraction solution
RIPA Lysis and Extraction Buffer	ThermoFisher Scientific	89900	suggested protein extraction solution
DNAzol	ThermoFisher Scientific	10503027	suggested DNA extraction solution
Organoids			
Flat bottom, polystyrene 96-well cell culture treated plate	ThermoFisher Scientific	161093	
Brightfield microscope with camera capabilities			ex. EVOS FL Auto Imaging System
Photo analysis software			ex. Photoshop, CELLESTE, ImageJ, MorphoLibJ, CellProfiler
Graphing software			ex. Graphpad, Excel, etc
Organoids			
Ice pack			

Masking tape			
Pipette tips (1000 µL)			
Razor blade			
Dispase	STEMCELL Technologies	7923	
Agarose	Sigma-Aldrich	A9045	
HistoGel (histology-gel)	ThermoFisher Scientific	HG-4000-012	
Pencil			
"Plunger" from 1 cc insulin syringe			
Tissue Casette	Thomas Scientific	1202D72	
Container to hold fixative			
10% neutral buffered formalin (NBF)	Sigma-Aldrich	HT501128	
Histology pen, xylene and EtOH-resistant	Sigma-Aldrich	Z648191-12EA	STATMARK pen
Ethanol (histologic grade)	Fisher Scientific	A405P-4	For fixation and graded dilutions during processing
Xylenes	Sigma-Aldrich	214736-1L	
Deionized water			
Paraffin	Leica	various	
Tissue processor			
Embedding workstation			
Economy Tissue Float Bath	Daigger	EF4575E XH-1001	
Microtome			
Microtome blades	Ted Pella	27243	
Positively charged microscope slides	Thomas Scientific	1158B91	
Laboratory Oven	ThermoFisher Scientific	PR305225G	
Hematoxylin and Eosin Stain Kit	Vector Laboratories	H-3502	Suggested H&E staining kit
ABC Peroxidase Standard Staining Kit	ThermoFisher Scientific	32020	Suggested immunohistochemistry staining kit
Androgen Receptor Primary Antibody (AR)	Cell Signaling Technology	5153S	Suggested primary antibody for IHC
FFPE, sectioned organoid sample baked on a slide			
Ethanol (histologic grade)	Fisher Scientific	A405P-4	dilutions should be performed using deionized water
Xylenes	Sigma-Aldrich	214736-1L	
Deionized water (DI H ₂ O)			
Antigen retrieval solution	Sigma-Aldrich, Abcam	C9999, ab93684	
1x Phosphate Buffered Saline - PBS	ThermoFisher Scientific	10010023	
Triton X-100	Sigma-Aldrich	X100-1L	
Normal Horse Serum	thermoFisher Scientific	31874	
Bovin Serum Albumin	Sigma-Aldrich	A2058	
Counterstain (DAPI, Hoescht)	Sigma-Aldrich	D9542	
Sodium azide	Sigma-Aldrich	S2002	suggested for storage but not required
Confocal microscope			
Coplin	Fisher Scientific	19-4	

Staining rack	IHC World	M905-12DGY	
Staining dish	IHC World	M900-12B	
Decloaking chamber	Biocare Medical	DC2012	
Humidity chamber	Thomas Scientific	1219D68	
Hydrophobic barrier pen	Vector Laboratories	H-4000	
Cytokeratin 8/18 primary antibody (CK8)	ARP American Research Products	03-GP11	suggested primary antibody for IF
p63-alpha antibody (p63)	Cell Signaling Technology	4892S	suggested primary antibody for IF
Keratin 5 Polyclonal Antibody (CK5)	Biolegend	905501	suggested primary antibody for IF
Goat anti-rabbit secondary	ThermoFisher Scientific	A21245	suggested secondary antibody for p63 or CK5 detection (do not use at same time)
Goat anti-guinea pig secondary	ThermoFisher Scientific	A-11075	suggested secondary antibody for CK8 detection
Microscope cover glass	Globe Scientific	1414-10	
Anti-fade mounting media	ThermoFisher Scientific	S36972	
Organoids			
Pipette tips (1000 µL)			
Pipette tips (200 µL)			
8-well chamber slide	ThermoFisher Scientific	154534PK	It is also possible to use a confocal dish, depends on preference of user
Cell-Tak	Corning	CB40240	optional adherent reagent
1x Phosphate Buffered Saline (PBS)	ThermoFisher Scientific	10010023	
4% paraformaldehyde (PFA)	Biotium	22023	other fixatives such as methanol or formalin can be used
50mM NH ₄ Cl	sigma-Aldrich	254134	
Triton™ X-100 (non-ionic detergent)	sigma-Aldrich	X100-1L	
Normal Horse Serum (NHS)	thermoFisher Scientific	31874	
Bovin Serum Albumin (BSA)	sigma-Aldrich	A2058	
Counterstain (DAPI, Hoescht)	Sigma-Aldrich	D9542	
Counterstain (phalloidin)	thermoFisher Scientific	A22287	
Sodium azide	sigma-Aldrich	S2002	suggested for storage but not required
Confocal microscope			
Cytokeratin 8/18 primary antibody (CK8)	ARP American Research Products	03-GP11	suggested primary antibody for IF
p63-alpha antibody (p63)	Cell Signaling Technology	4892S	suggested primary antibody for IF
Keratin 5 Polyclonal Antibody (CK5)	Biolegend	905501	suggested primary antibody for IF
Goat anti-rabbit secondary	ThermoFisher Scientific	A21245	suggested secondary antibody for p63 or CK5 detection (do not use at same time)
Goat anti-guinea pig secondary	ThermoFisher Scientific	A-11075	suggested secondary antibody for CK8 detection
Visikol HISTO-M	Visikol	various	optional clearing agent
Organoids			
Pipette tips (1000 µL)			

Pipette tips (200 µL)			
8-well chamber slide	ThermoFisher Scientific	154534PK	It is also possible to use a confocal dish, depends on preference of user
Cell-Tak	Corning	CB40240	
1x Phosphate Buffered Saline - PBS	ThermoFisher Scientific	10010023	
Cell assay of interest	Various	Various	Click-iT EdU Alexa Fluor proliferation assay (fluorescently-labelled EdU proliferation kit), Image-iT Lipid Peroxidation Kit, etc) and fluorescent probes/dyes (ex. HCS mitochondrial Health Kit, CellMask, LIVE/DEAD Viability assays, CellROX reagents, etc)
Organoids			
Ice bucket			
Cell culture hood			
1.5 mL eppendorf tubes or 15 mL conical			
Microcentrifuge			
Dispase	STEMCELL Technologies	7923	
TrypLE Express (cell dissociation enzymes)	ThermoFisher Scientific	12605036	Cell dissociation enzymes (trypsin may also work, depending on cell type, but TrypLE is more gentle and recommended for primary cells)
Hanks' balanced salt solution (HBSS)	ThermoFisher Scientific	14175079	
Flow Tube with Cell Strainer Snap Cap	Fisher Scientific	08-771-23	
Cytokeratin 5 Antibody - FITC	Millipore Sigma	FCMAB291F	Suggested flow antibody
Cytokeratin 8 Antibody - Alexafluor 405	Abcam	ab210139	Suggested flow antibody
CD49f - Alexafluor 647	BioLegend	313609	Suggested flow antibody
CD26 - PE	BioLegend	320576	Suggested flow antibody
Flow cytometer			