

Culture and Imaging of Human Nasal Epithelial Organoids

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Materials

Name	Company	Catalog Number	Comments
Nasal brush	Medical Packaging CYB1	CYB-1	Length: 8 inches, width approximately 7 mm
Large-Orifice Pipette Tips	ThermoFisher Scientific	02-707-141	Large bore pipette tips
Accutase	ThermoFisher Scientific	A1110501	Cell detachment solution
0.05% trypsin -EDTA	Gibco	25300-054	
Trypsin inhibitor from soybean	Sigma	T6522	Working solution: 1mg/mL in 1XDPBS
Matrigel matrix	Corning	356255	Extracellular matrix (EM)
μ-Slide Angiogenesis	Ibidi	81506	15-well slide
24-Well Transwell	Corning	7200154	Culture insert
Chambered Coverglass	ThermoFisher Scientific	155409	8-well glass-bottom chamber slides
Cell-Tak Cell and Tissue Adhesive	ThermoFisher Scientific	354240	Cell adhesive
Paraformaldehyde	Electron Microscopy Sciences	50980487	
Triton X-100	Alfa Aesar	A16046	
BSA	ThermoFisher Scientific	BP1600-100	
NucBlue	ThermoFisher Scientific	R37605	DAPI
Eclipse Ts2-FL (Inverted Routine Microscope)	Nikon		Inverted epi-fluorescence microscope or bright-field microscope
Nikon A1R-HD25	Nikon		Confocal microscope
NIS Elements- Basic Research	Nikon		manual imaging analysis software
Histogel	ThermoFisher Scientific	HG-4000-012	
Disposable Base Molds	ThermoFisher Scientific	41-740	
Lionheart FX	BioTek	BTLFX	Automated image system
Lionheart Cover	BioTek	BT1450009	Environmental Control Lid
Humidity Chamber	BioTek	BT1450006	Stage insert (environmental chamber)
Gas Controller for CO ₂ and O ₂	BioTek	BT1210013	Gas controller
Microplate/Slide Stage Insert	BioTek	BT1450527	Slide holder
Gen5 Imaging Prime Software	BioTek	BTGEN5IPRIM	Automated imaging analysis software
4x Phase Contrast Objective	BioTek	BT1320515	

10x Phase Contrast Objective	BioTek	BT1320516	
LED Cube	BioTek	BT1225007	
Filter Cube (DAPI)	BioTek	BT1225100	DAPI
CFTRinh-172	Selleck Chemicals	S7139	
Forskolin	Sigma	F6886	
IBMX	Sigma	I5879	
Expansion Media			
DMEM	ThermoFisher Scientific	11965	
F12 Nutrient mix	ThermoFisher Scientific	11765	
Fetal Bovine Serum	ThermoFisher Scientific	16140-071	
Penicillin/Streptomycin	ThermoFisher Scientific	15-140-122	
Cholera Toxin	Sigma	C8052	
Epidermal Growth Factor (EGF)	ThermoFisher Scientific	PHG0314	
Hydrocortisone (HC)	Sigma	H0888	
Insulin	Sigma	I9278	
Adenine	Sigma	A2786	
Y-27632	Stemgent	04-0012-02	
Antibiotic Media			
Ceftazidime	Alfa Aesar	J66460-03	
Tobramycin	Alfa Aesar	J67340	
Vancomycin	Alfa Aesar	J67251	
Amphotericin B	Sigma	A2942	
Differentiation Media			
DMEM/F-12 (1:1)	ThermoFisher Scientific	11330-32	
Ultroser-G	Pall	15950-017	
Fetal Clone II	Hyclone	SH30066.03	
Bovine Brain Extract	Lonza	CC-4098	
Insulin	Sigma	I-9278	
Hydrocortisone	Sigma	H-0888	
Triiodothyronine	Sigma	T-6397	
Transferrin	Sigma	T-0665	
Ethanolamine	Sigma	E-0135	
Epinephrine	Sigma	E-4250	
O-Phosphorylethanolamine	Sigma	P-0503	
Retinoic Acid	Sigma	R-2625	
Primary antibodies			
Human CFTR antibody	R&D Systems	MAB1660	Dilution: 100x
ZO-1 antibody	Thermo Fisher	MA3-39100-A647	Dilution: 1000x
Anti-MUC5B antibody	Sigma	HPA008246	Dilution: 100x
Anti-acetylated tubulin	Sigma	T7451	Dilution: 100x
Anti-beta IV Tubulin antibody	Abcam	Ab11315	Dilution: 100x
Secondary antibodies			
Donkey anti-Mouse IgG (H+L), Alexa Fluor 488	Invitrogen	A21202	Dilution: 2000x
Donkey anti-Rabbit IgG (H+L), Alexa Fluor 594	Invitrogen	A21207	Dilution: 2000x