

Materials List for

Three-Dimensional Morphogenesis in Canine Gut-on-a-Chip Using Intestinal Organoids Derived from Inflammatory Bowel Disease Patients

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Materials

Name	Company	Catalog Number	Comments
Organoid basal medium			
Advanced DMEM/F12	Gibco	12634-010	
GlutaMAX	Gibco	35050-061	2 mM, glutamine substitute
1 M HEPES	VWR Life Science	J848-500ML	10 mM
100x penicillin–streptomycin	Corning	MT30009CI	1x
Organoids and organoid medium			
A-83-01	PeproTech	9094360	500 nM
B27 supplement	Gibco	17504-044	1x
CHIR99021	Reprocell	04-0004-base	2.5 μM
HEK293 cells engineered to secrete Noggin	Baylor College of Medicine		
Murine EGF	PeproTech	315-09-1MG	50 ng/mL
Murine Wnt-3a	PeproTech	315-20-10UG	100 ng/mL
N-Acetyl-L-cysteine	Sigma	A9165-25G	1 mM
N2 MAX Media supplement	Gibco	17502-048	1x
Nicotinamide	Sigma	N0636-100G	10 mM
Noggin Conditioned Medium	NA	NA	10% vol/vol
Primocin	InvivoGen	ant-pm-1	100 μg/ml
R-spondin1 (Rspo1) cells	Trevigen	3710-001-01	Rspo1 cells
R-Spondin-1 Conditioned Medium	NA	NA	20% vol/vol
SB202190	Sigma-Aldrich	S7067-25MG	10 μM
Y-27632	StemCellTechnologies	72308	10 μM
[Leu15]-Gastrin I human	Sigma-Aldrich	G9145-.5MG	10 nM
Reagents			
4% Paraformaldehyde solution	Fisher Scientific	AAJ19943K2	

Alexa Fluor 647 Phalloidin	Thermo Fisher Scientific	A22287	x250 dilution
Anti-Rabbit IgG H&L labeled with Alexa Fluor 555	Abcam	ab150078	x1,000 dilution
Anti-ZO-1 polyclonal antibody	Thermo Fisher Scientific	61-7300	x50 dilution
Cell Recovery Solution	Corning	354253	
Collagen I, Rat Tail 3 mg/mL	Gibco	A10483-01	
Diamidino-2-phenylindole (DAPI)	Thermo Fisher Scientific	62248	x1,000 dilution
EMS Glutaraldehyde Aqueous 50%	Electron Microscopy Sciences	16320	
Matrigel Matrix	Corning	356255	
Poly(ethyleneimine) solution	Sigma	408700-250ML	
TrypLE Express	Gibco	12604-021	
Materials and Equipment			
24-well culture plates	Corning	3524	
87V Industrial Multimeter	Fluke Corporation		
Centrifuge	Eppendorf	5910R	
CO2 incubator	Eppendorf	C170i	
DMi8 fluorescence microscope	Leica microsystems	DMi8	
Dry oven	Fisher Scientific	15-103-0519	
FlexCell FX-5000 Tension system	Flexcell International Corporation		
Inverted phase-contrast microscope	Leica microsystems	DMi1	
SP8-X inverted confocal microscope	Leica microsystems	SP8-X	
Syringe pump	Braintree Scientific	model no. BS-8000 120V	
Syringe, 3 mL sterile	BD Biosciences	14-823-435	
Syringes, 1 mL sterile	BD Biosciences	14-823-434	
UV/ozone generator	Jelight Company	model no. 30	
Software			
LAS X imaging software	Leica microsystems		