

Materials List for

Microfluidic Model of Necrotizing Enterocolitis Incorporating Human Neonatal Intestinal Enteroids and a Dysbiotic Microbiome

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Citation

Frazer, L.C., Yamaguchi, Y., Jania, C.M., Lanik, W.E., Gong, Q., Singh, D.K., Mackay, S., Akopyants, N.S., Good, M. Microfluidic Model of Necrotizing Enterocolitis Incorporating Human Neonatal Intestinal Enteroids and a Dysbiotic Microbiome. *J. Vis. Exp.* (197), e65605, doi:10.3791/65605 (2023).

Date Published

July 28, 2023

DOI

10.3791/65605

URL

jove.com/video/65605

Materials

Name	Company	Catalog Number	Comments
[Leu15]-Gastrin I human	Sigma-Aldrich	G9145	
A 83-01	Sigma-Aldrich	SML0788	
Advanced Dulbecco's Modified Eagle Medium/Ham's F-12	Gibco	12634010	
B-27 Supplement, serum free (50x)	Gibco	17504044	
Basic Bio-kit	Emulate	N/A	
BioTek Synergy 2 Multi-Mode Microplate Reader	Agilent	7131000	
BRAND Methacrylate (PMMA) Cuvettes, Semi-Micro	BrandTech	759085D	
Cell Recovery Solution	Corning	354270	
CFX Opus Real-Time PCR Systems	Bio-Rad	12011319	
Chip Cradle	Emulate	N/A	
Chip-S1 Stretchable Chip	Emulate	N/A	
CHIR99021	Sigma-Aldrich	SML1046	
Clear TC-treated Multiple Well Plates, 48 well	Corning	3548	
Collagen from human placenta	Sigma-Aldrich	C5533	
Collagenase, Type I, powder	Gibco	17018029	
Complete Human Endothelial Cell Medium with Kit	Cell Biologics	H-1168	
Conical Polypropylene Centrifuge Tubes, 15 mL	Fisher Scientific	05-539-12	
Conical Polypropylene Centrifuge Tubes, 50mL	Fisher Scientific	05-539-8	

Countess Cell Counting Chamber Slides	Invitrogen	C10283	
Countess II automated cell counter	Invitrogen	AMQAX1000	
DAPT	Sigma-Aldrich	D5942	
Dextran, Cascade Blue, 3000 MW, Anionic, Lysine Fixable	Invitrogen	D7132	Permeability dye
Dimethyl sulfoxide (DMSO)	Sigma-Aldrich	D8418	
Disposable PES Filter Units, 0.2um aPES membrane	Fisher Scientific	FB12566504	
DMEM/F-12	Gibco	11320033	
Donkey serum	Sigma-Aldrich	D9663	
Dulbecco's Modified Eagle's Medium - high glucose	Sigma-Aldrich	D5796	
Dulbecco's Phosphate Buffered Saline (DPBS)	Gibco	14190-136	
EDTA, 0.5 M, pH 8.0	Corning	46-034-CI	
ER-1 surface activation reagent	Emulate	ER-1	Chip Activation Reagent 1
ER-2 surface activation reagent	Emulate	ER-2	Chip Activation Reagent 2
Fibronectin Human Protein, Plasma	Gibco	33016015	
Fisherbrand Petri Dishes with Clear Lid, 100mm	Fisher Scientific	FB0875713	
Gelatin-Based Coating Solution	Cell Biologics	6950	
Genie Temp-Shaker 300	Scientific Industries, Inc.	SI-G300	
Gentamicin	Gibco	15750060	
HEPES, Liquid 1M Solution (238.3 mg/ mL)	Corning	25-060-CI	
Hoechst 33342, Trihydrochloride, Trihydrate	Invitrogen	H3570	
Human Collagen Type I	Sigma-Aldrich	CC050	
Human Primary Small Intestinal Microvascular Endothelial Cells	Cell Biologics	H-6054	
Inverted Microscope	Fisher Scientific	03-000-013	
Isotemp General Purpose Deluxe Water Baths	Fisher Scientific	FSGPD10	
L-Glutamine	Gibco	25030-081	
Luria Broth (LB) agar, Miller	Supelco	L3027	
L-WRN Cells	American Type Culture Collection	CRL-3276	
Matrigel Growth Factor Reduced Basement Membrane Matrix, LDEV-free	Corning	356231	Cell Culture Matrix
N-2 Supplement (100x)	Gibco	17502048	
N-acetyl-L-cysteine	Sigma-Aldrich	1009005	
NAILSTAR UV LAMP	NailStar	NS-01-US	
NanoDrop OneC Microvolume UV-Vis Spectrophotometer	Thermo Scientific	840-274200	
Nicotinamide	Sigma-Aldrich	72340	
Orb-HM1 Hub Module	Emulate	N/A	
Paraformaldehyde	ThermoFisher	047392.9L	
Penicillin-Streptomycin	Gibco	15140122	
Phosphate buffered saline (PBS)	Gibco	10010023	
Pipet-Lite Multi Pipette L8-200XLS+	Rainin	17013805	

Pipette Tips TR LTS 1000µL S 768A/8	Rainin	17014966	
Pod Portable Module	Emulate	N/A	
Premium Grade Fetal Bovine Serum (FBS)(Heat Inactivated)	Avantor Seradigm	1500-500	
QuantiTect Reverse Transcription Kit	QIAGEN	205313	
Recombinant Murine Epidermal Growth Factor (EGF)	PeptoTech	315-09	
SB 431542	Tocris	1614	
Square BioAssay Dish with Handles, not TC-treated	Corning	431111	
SsoAdvanced Universal SYBR Green Supermix	Bio-Rad	1725271	
Steriflip-GV Sterile Centrifuge Tube Top Filter Unit	Millipore	SE1M179M6	
Sterile Cell Strainers, 70µm	Fisher Scientific	22-363-548	
Sterile Syringes, 10mL	Fisher Scientific	14-955-453	
Straight, fine, sharp point scissors	Miltex Instruments	MH5-300	
Thermo Scientific Sorvall X4R Pro-MD Centrifuge	Thermo Scientific	75016052	
Triton X-100	Sigma-Aldrich	T8787	Detergent
TRIzol Reagent	Invitrogen	15596026	RNA extraction reagent
Trypan Blue Solution, 0.4% (w/v) in PBS, pH 7.5 ± 0.5	Corning	25-900-CI	
TrypLE Express Enzyme (1X), no phenol red	Gibco	12604013	Enzymatic Dissociation Reagent
Trypsin-EDTA solution	Sigma-Aldrich	T4174	
VIOS 160i CO2 Incubator, 165 L	Thermo Scientific	13-998-252	
Y-27632	Tocris	1254	
Zoë-CM1 Culture Module	Emulate	N/A	