

Materials List for

# 3D Cell-Printed Hypoxic Cancer-on-a-Chip for Recapitulating Pathologic Progression of Solid Cancer

Wonbin Park<sup>\*1</sup>, Mihyeon Bae<sup>\*1</sup>, Minseon Hwang<sup>1</sup>, Jinah Jang<sup>2</sup>, Dong-Woo Cho<sup>1</sup>, Hee-Gyeong Yi<sup>1,3</sup>

<sup>1</sup>Department of Mechanical Engineering, Pohang University of Science and Technology (POSTECH) <sup>2</sup>Department of Creative IT Engineering, Pohang University of Science and Technology (POSTECH) <sup>3</sup>Department of Rural and Biosystems Engineering, College of Agriculture and Life Sciences, Chonnam National University

\* These authors contributed equally

## Corresponding Authors

**Jinah Jang**      **Dong-Woo Cho**      **Hee-Gyeong Yi**  
 jinahjang@postech.ac.kr    dwcho@postech.ac.kr    hgyi@jnu.ac.kr

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## Materials

Name	Company	Catalog Number	Comments
<b>Cells</b>			
Human umbilical vein endothelial cells	Promocell	C-12200	
U-87 MG cells	ATCC	ATCC HTB-14	
<b>Disposable</b>			
0.2 µm syringe filter	Sartorius	16534-K	
10 mL disposable syringe	Jung Rim	10ml 21G32	
10 mL glass vial	Hubena	A0039	
10 mL Serological pipette tip	SPL lifescience	91010	
15 mL conical tube	SPL lifescience	50015	
18G plastic needle	Musashi engineering	PN-18G-B	
20G plastic tapered dispense tip	Musashi engineering	TPND-20G-U	
22x50 glass cover	MARIENFIELD	0101142	
25 mL Serological pipette tip	SPL lifescience	90125	
3 mL disposable syringes	HENKE-JET	4020-X00V0	
40 µm cell strainer	Falcon	352360	
5 mL Serological pipette tip	SPL lifescience	91005	
50 mL conical tube	SPL lifescience	50050	
50 mL Serological pipette tip	SPL lifescience	90150	
50N precision nozzle	Musashi engineering	HN-0.5ND	
Aluminum foil	SINKWANG		
Capillary tips	Gilson	CP1000	
Cell-scrapper	SPL lifescience	90030	
Confocal dish	SPL lifescience	200350	
Parafilm	Bemis	PM996	

Pre-coated histology slide	MATSUNAMI	MAS-11	
Reservoir	SPL lifescience	23050	
T-75 cell culture flask	SPL lifescience	70075	
<b>Equipment</b>			
3DX printer	T&R Biofab		
Autoclave	JEIOTECH	AC-12	
Centrifuger	Cyrozen	1580MGR	
Confocal laser microscopy	Olympus Life Science	FV 1000	
Fluorescence microscope	FISHER SCEINTIFIC	O221S366	
Forcep	Korea Ace Scientific	HC.203-30	
Hand tally counter	KTRIO		
Hemocytometer	MARIENFIELD	0650030	
Incubator	Panasonic	MCO-170AIC	
Laminar flow cabinet	DAECHUNG SCIENCE	CB-BMMS C-001	
Metal syringe	IWASHITA engineering	SUS BARREL 10CC	
Operating Scissors	Hirose	HC.13-122	
Oven	JEIOTECH	OF-12, H070023	
Positive displacement pipette	GILSON	NJ05652	
Refrigerator	SAMSUNG	CRFD-1141	
Vortex Mixer	DAIHAN scientific	VM-10	
Water bath	DAIHAN SCIENTIFIC	WB-11	
Water purifier	WASSER LAB	DI-GR	
<b>Materials</b>			
0.25 % Trypsin-EDTA	Gibco	25200-072	
10x PBS	Intron	IBS-BP007a	
4% Paraformaldehyde	Biosesang		
70% Ethanol	Daejung	4018-4410	
Anti-CD31 antibody	Abcam	ab28364	
Anti-HIF-1 alpha antibody	Abcam	ab16066	
Anti-SHMT2/SHMT antibody	Abcam	ab88664	
Anti-SOX2 antibody	Abcam	ab75485	
Bovine Serum Albumin	Thermo scientific	J10857-22	
Collagen from porcine skin	Dalim tissen	PC-001-1g	
DAPI (4',6-Diamidino-2-Phenylindole, Dihydrochloride)	Theromofisher	D1306	
Endothelial Cell Growth Medium-2	Promocell	C22011	
Fetal bovine serum	Gibco	12483-020	
Goat anti-Mouse IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 488	Theromofisher	A-11001	
Goat anti-Rabbit IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 594	Theromofisher	A-11012	
High-glucose Dulbecco's Modified Eagle Medium(DMEM)	Hyclone	SH30243-0	
Hydrochloric acid	Sigma-Aldrich	311413-100ML	
Live/dead assay kit	Invitrogen	L3224	
Mouse IgG1, kappa monoclonal [15-6E10A7] - Isotype Control	Abcam	ab170190	
Penicillin/streptomycin	Gibco	15140-122	

Phenol red solution	Sigma-Aldrich	P0290-100ML	
Poly(ethylene-vinyl acetate)	Poly science	06108-500	
Polydimethylsiloxane	Dowhitech	sylgard 184	
Rabbit IgG, polyclonal - Isotype Control	Abcam	ab37415	
Sodium hydroxide solution	Samchun	S0610	
Triton X-100	Biosesang	TRI020-500-50	
Trypan Blue	Sigma-Aldrich	T8154	
<b>Software</b>			
COMSOL Multiphysics 3.5a	COMSOL AB		
IMS beamer			in-house software
SolidWorks Package	Dassault Systems SolidWorks Corporation		