

Materials List for:

Fabrication of Inverted Colloidal Crystal Poly(ethylene glycol) Scaffold: A Three-dimensional Cell Culture Platform for Liver Tissue Engineering

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Materials

Name	Company	Catalog Number	Comments
0.2 ml PCR tube	Axygen Scientific	PCR-02D-C	Boil-proof
Gorilla Glue	Gorilla Glue, Inc.	Depends on vendor. This was purchased from a local store.	
Glass slides	VWR	631-1575	Dimensions: 24×60 mm ²
Polystyrene spheres	Fisher Scientific	TSS#4314A	Diameter = 140 μm; 3×10 ⁴ particles per milliliter and 1.4% size distribution
Ethanol	Merck	1.00983.1011	absolute for analysis EMSURE; Dilute to 70% with Milli-Q water
Ultrasonic Bath	Elma	S10H	Equipment
Furnace	Nabertherm	N7/H	Equipment
200 μl pipette tip	Axygen Scientific	T-210-Y-R-S	
Rocking shaker	VWR	444-0142	
Polyethylene Glycol (PEG)	Merck	1.09727.0100	M _w = 4 kDa; acrylation of PEG monomers and purification of the resulting precipitate produces a PEGDA macromer with M _w = 4.6 kDa
Centrifuge	Beckman Coulter	392932	Equipment
Acrylate-Poly(Ethylene Glycol) - Succinimidyl Valerate	Laysan Bio	ACRL-PEG-SVA-3400-1g	M _w = 3.4 kDa
2-hydroxy-4'-(2-hydroxyethoxy)-2-methylpropiophenone	Sigma Aldrich	410896	
Vortex	VWR	58816-123	Equipment
Microcentrifuge	Eppendorf	5404 000.413	
Paraffin Film	Parafilm M	#PM996	Kept at 9" with allows intensity of 10.84 mW/cm ²
Bluewave 200 UV spotlight	Blaze Technology	120008, 122300	
Tetrahydrofuran (THF)	Merck	107025	
Orbital shaker	Heidolph	543-123120-00-5	
Collagen Type I	Sigma Aldrich	C3867-1VL	From rat. 1x, w/o CaCl ₂ & MgCl ₂ ; pH = 7.2
Phosphate Buffered Saline (PBS)	Gibco	20012-027	16% W/V AQ. 10 x 10 ml
Paraformaldehyde	VWR	43368.9M	Equipment
Freezone 4.5 freeze drier	Labconco	7750020	Equipment
Sputter coater	Jeol Ltd.	JFC-1600	Equipment

Scanning Electron Microscope	Jeol Ltd.	JSM 5310	
Anti-mouse primary antibodies against Collagen type I	Abcam	ab6308	
Anti-mouse secondary antibody conjugated with Alexa Fluor 488	Life Technologies	A21121	
Plate, Tissue Culture 24 Well, Flat Bottom (Nunc)	Bio-Rev PTE LTD	3820-024	
Dulbecco's Modified Eagle's Medium(DMEM) 2.5 g/L Glucose w/ L-Gln	Lonza	12-604F	
Fetal Bovine Serum (FBS)	Gibco	A15-151	
Penicillin-Streptomycin (P/S)	Life Technologies	15140-122 E	
100 mm Corning non-treated culture dishes	Sigma Aldrich	CLS430591	
0.25% Trypsin-EDTA	Gibco	25200-056	Equipment; 37 °C, 5% Humidity
Forma Steri-Cycle CO ₂ Incubators	ThermoFisher Scientific	371	
Hausser Bright-Line Phase Hemacytometer	ThermoFisher Scientific	02-671-6	
Live/Dead Viability/Cytotoxicity Kit for mammalian cells	Life Technologies	L3224	
CCK-8 Assay	Dojindo Laboratories	CK04-11	Monosodium-salt reagent (MSR)
Infinite 200 PRO microplate reader	Tecan		
Albumin Human ELISA kit	Abcam	ab108788	
Triton X-100	Bio-Rad	#1610407	
Bovine Serum Albumin (BSA)	Sigma-Aldrich	A2153-50G	
Anti-mouse primary antibodies (against CYP3A4, albumin)	Santa Cruz Biotechnology	sc-53850; sc-271605	
DAPI	Life Technologies	D3571	
Alexa Fluor 555 labeled Phalloidin	Life Technologies	A34055	
Trizol	Life Technologies	15596-026	
Chloroform	VWR	22706.326	
Isopropanol	Fisher Scientific	67-63-0	
DPEC water	ThermoFisher Scientific	AM9916	
Nanodrop 2000c Spectrophotometer	ThermoFisher Scientific	ND-2000	
iScript Reverse Transcription Supermix	Bio-Rad Laboratories	1708840	
SYBR select Master Mix for CFX	Life Technology	4472937	
Primers (to be chosen)			
CFX96 Real-Time System, C-1000 Touch Thermal Cycler	Bio Rad Laboratories	SOFT-CFX-31-PATCH	