JoVE

Materials List for

An Open Source Technology Platform to Manufacture Hydrogel-Based 3D Culture Models in an Automated and Standardized Fashion

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Materials

Name	Company	Catalog Number	Comments
15 reaction tubes	Fisher Scientific, Inc. (USA)	14-959-53A	
5 mL tubes	Pacific Laboratory Products Australia Pty. Ltd. (Australia)	SCT-5ML	size depends on experimentl protocol; also Eppies (0.5, 1, 1.5 mL) or Falcon tubes (15, 50mL) can be used; product is manufactured by Axygen, Inc. https://www.pacificlab.com.au/shop/tubes-plastic/sct-5ml-tubewith-screwcap-blue-unassembled-5ml-self-standing/1/name
50 mL reaction tubes	Fisher Scientific, Inc. (USA)	14-432-22	
70% w/w Ethanol	LabChem, Inc. (USA)	aja726-5Lpl	
96-well plate	Thermo Fisher Scientific, Inc. (USA)		https://www.thermofisher.com/order/catalog/product/168055
Alginate	NovaMatrix	4200001	https://www.novamatrix.biz/store/pronova-up-lvg/
Demineralized or ultrapure (MilliQ) water			
Gelatin methacryloyl (GelMA)	Synthetized in-house		detailed protocol (incl materials and references) is available in Loessner et al. (2016), Nature Protocols. https://www.nature.com/articles/nprot.2016.037
Lithium phenyl-2,4,6-trimethylbenzoylphosphinate (LAP)	Sigma-Aldrich, Inc. (USA)	900889	
M4 and M5 Allen key	OpenBuilds, inc. (USA)	179, 190	also available in every hardware store. https://

			openbuildspartstore.com/allen-wrench/
OrangeG	Fisher Scientific (USA)	O267-25	https://www.fishersci.com/shop/products/orange-g-certified-biological-stain-fisher-chemical/O26725
Phosphate-buffered saline (PBS)	Thermo Fisher Scientific, Inc. (USA)	14190-144	alternativly: PBS tablets: 18912014 (Thermo Fisher Scientific)
Equipment			
Aluminium blocks for temperature dock	Ratek Instruments Pty. Ltd. (Australia)	SB16	blocks for different tube sizes are available. http://www.ratek.com.au/products/SB16-Block-with-12x16mm-holes.html
Analytical balance	Sartorius AG (Germany)	ED224S	
Open source liquid handling robot: commercial product	Opentrons Laboratories, Inc. (USA)	OT-One S Pro	https://shop.opentrons.com/products/ot-one-pro
Open source liquid handling robot: open source hardware	Assembled in-house following an open source approach		hardware and software files are freely accessible on GitHub and Zenodo (links provided); building instructions are provided. https://github.com/SebastianEggert/OpenWorkstation. https://zenodo.org/record/3612757#.XipEjBV7F24
Positive displacement pipette: MicromanE	Gilson, Inc. (USA)	FD10006	depends on required size. https://www.gilson.com/default/shop-products/pipettes/positive-displacement.html
Spectrophotometer	BMG LABTECH GmbH (Germany)	CLARIOstar	
Tips: capillary pistons	Gilson, Inc. (USA)	F148180	depends on required size. https://www.gilson.com/default/shop-products/pipette-tips.html?technique_en_ww_lk=191