

Materials List for:

Fabrication of Extracellular Matrix-derived Foams and Microcarriers as Tissue-specific Cell Culture and Delivery Platforms

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Materials

Name	Company	Catalog Number	Comments
Acetic acid, glacial	BioShop	ACE222.500	
Alligator clip leads	VWR	470149-728	
Aluminium foil	Fisher Scientific	01-213-101	
α-amylase	Sigma	101074694	from <i>Aspergillus oryzae</i>
Analytical balance	Sartorius	CPA225D	
Centrifuge	Thermo Scientific	75004251	With swinging bucket rotor for 15 & 50 mL centrifuge tubes
Centrifuge tubes (15 mL)	Sarstedt	62.554.205	
Centrifuge tubes (50 mL)	Sarstedt	62.547.205	
Collagen from bovine achilles tendon (insoluble)	Sigma	C9879	Or similar insoluble collagen source; Can be used as an alternative to decellularized tissues to fabricate the foams and microcarriers
Cryomilling system	Retsch	20.745.0001	MM 400
Dessicator	Fisher Scientific	8624426	For lyophilized ECM and bioscaffold storage
DMEM: F12 Hams	Sigma	D6421	Used for proliferation media
Dewar flask	Fisher Scientific	10-196-6	Low form; volume range of 250 - 500 mL
Double distilled water (ddH ₂ O)			From Barnstead GenPure xCAD Water Purification System
D-PBS (Phosphate-buffered Saline)	Wisent	311425125	
ECM (Extracellular Matrix)			Isolated from human adipose tissue, porcine dermis or porcine myocardium, as described in Flynn <i>et al.</i> 2010, Reing <i>et al.</i> 2010, and Wainwright <i>et al.</i> 2010 (ref # 28, 8, 32)
Ethanol	Greenfield Specialty Alcohols Inc.	P016EAAN	Absolute
Fetal bovine serum (FBS)	Wisent	80150	Used for proliferation media
Forceps	VWR	37-501-32	For transferring the foams
Freezer (-20 °C)	VWR	97043-346	
Freezer (-80 °C)	Thermo Scientific	EXF40086A	
Glass vials	Fisher Scientific	03-339-26D	To store lyophilized cryomilled ECM

Hand held homogenizer	Fisher Scientific	14-359-251	Speed: 8,000 - 30,000 rpm
Homogenizer accessories: saw tooth bottom generator probes	Fisher Scientific	14-261-17	10 x 95 mm
Liquid nitrogen			For electrospraying
Lyophilizer	Labconco	7750021	FreeZone4.5
Milling chamber	Retsch	02.462.0213	25 mL volume recommended
Milling balls	VWR	16003-606	10 mm diameter, stainless steel recommended
18 G needle	VWR	C ABD305185	For dispensing ECM suspension into moulds
Orbital incubator shaker	SciLogex	832010089999	Temperature controlled (37 °C)
Penicillin-streptomycin	Life Technologies	15140-122	Used for proliferation media
Pipet-Aid XP	Mandel Scientific	DRU-4-000-101	
Retort stand	VWR	470019-526	
Retort stand clamp	VWR	21573-606	
Safety-Lok Syringe	BD	309606	3 mL Luer lock syringe for microcarrier fabrication and dispensing ECM suspension
Serological pipettes (10 mL)	Sarstedt	86.1254.001	
Serological pipettes (25 mL)	Sarstedt	86.1685.001	
Sodium chloride	BioShop	7647-14-5	
Sodium phosphate monobasic	BioShop	10049-21-5	
Scoopula	VWR	89259-968	For collecting microcarriers
Surgical scissors	VWR	82027-590	
Syringe pump	VWR	10117-490	Microprocessor controlled
High voltage power supply	Gamma High Voltage Research	ES30P-5W/DDPM	Capable of recommended 15 - 25 kV voltage range
12-well plates	Fisher Scientific	12565321	For use as molds during foam fabrication; Other sizes or user-defined molds can also be selected
Winged infusion set	Terumo	22258092	30 cm tubing length, 25 G 3/4" recommended; Other needle gauges can be used and may influence microcarrier diameter