

Materials List for:

Production of Extracellular Matrix Fibers Via Sacrificial Hollow Fiber Membrane Cell Culture

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Materials

Name	Company	Catalog Number	Comments
1/32 inch thick silicone rubber	Grainger	B01LXJULOM	
20 mL Scintillation Vials, Borosilicate glass, Disposable - VWR	VWR	66022-004	With attached white urea cap and cork foil liner
3 inch by 1 inch microscopy slides	VWR	75799-268	
4C refrigerator	Thermo Fisher Scientific	FRGG2304D	Any commercial 4C refrigerator will suffice.
50 mL tubes	VWR	21008-178	
6-well cell culture plates	VWR	10062-892	Alternative brands may be used
Acetone	VWR	E646	Alternative brands may be used
Bore vessel	McMaster-Carr	89785K867	6 ft 316 steel tubing
Bovine Plasma Fibronectin	Thermo Fisher Scientific	33010018	Comes as 1 mg of lyophilized protein
CaCl ₂	VWR/Amresco	97062-590	
Cell Culture Incubator w/ CO ₂			Any appropriate CO ₂ -supplied mammalian cell incubator will suffice.
Disposable Serological Pipets, Glass - Kimble Chase	VWR	14673-208	Alternative brands may be used
DMEM/F-12, HEPES	Thermo Fisher Scientific	11330032	Warm in water bath at 37°C for 30 minutes prior to use
DNase I	Sigma-Aldrich	DN25-10MG	
Dope vessel	McMaster-Carr	89785K867	6 ft 316 steel tubing
Ethanol	VWR	BDH1160	Dilute to 70% for sterilization
Fetal Bovine Serum, qualified, US origin - Gibco	Thermo Fisher Scientific	26140079	Mix with growth media at 10% concentration (50mL in 500mL media)
Four 1/4-inch to 1" reducing unions	Swagelok	SS-1610-6-4	One reducing union for each inlet and outlet of each vessel
Freeze-dryer/lyophilizer	Labconco	117 (A65312906)	Any lyophilizer will suffice.
Hexagonal Antistatic Polystyrene Weighing Dishes - VWR	VWR	89106-752	Any weigh boat will suffice
Hollow fiber membrane immersion bath			34L polypropylene tubs may be used or large bath containers can be fabricated from welded steel sheets
Hollow Fiber Membrane Spinneret	AEI	http://www.aei-spinnerets.com/specifications.html	Made to order. Inner diameter = 0.8 mm, outer diameter = 1.6 mm

Hot plate/stirrer	VWR	97042-634	
Human TGF- β 1	PeproTech	100-21	
L-Ascorbic acid	Sigma-Aldrich	A4544-25G	
L-Ascorbic acid 2-phosphate	Sigma-Aldrich	A8960-5G	
L-glutamine (200 mM) - Gibco	Thermo Fisher Scientific	25030081	Mix with growth media at 1% concentration (5mL in 500mL media)
MgCl ₂	VWR/Alfa Aesar	AA12315-A1	
Minus 80 Freezer	Thermo Fisher Scientific	UXF40086A	Any commercial -80C freezer will suffice.
N ₂ gas cylinders (two)			
NIH/3T3 cells	ATCC	CRL-1658	Alternative fibrogenic cell lines may be used.
N-methyl-2-pyrrolidone	VWR	BDH1141	Alternative brands may be used
Penicillin/Streptomycin Solution - Gibco	Thermo Fisher Scientific	15140122	Mix with growth media at 0.1% concentration (0.5 mL in 500mL media)
Polysulfone	Sigma-Aldrich	428302	Any polysulfone with an average Mw of 35,000 daltons may be used
Portable Pipet-Aid Pipetting Device - Drummond	VWR	53498-103	Alternative brands may be used
PTFE tubing (1/4-inch inner diameter)	McMaster-Carr	52315K24	Alternative brands may be used.
Rat skeletal muscle fibroblasts			Independently isolated from rat skeletal muscle. Alternative fibrogenic cell lines may be used.
RNase A	Sigma-Aldrich	R4642	
Silicone sheet	McMaster-Carr	1460N28	
Take-up motor	Geartisan	B071GTTSV3	200 RPM DC Motor
Tris HCl	VWR/Amresco	97063-756	
Two needle valves	Swagelok	SS-1RS4	