

Materials List for:

Treatment of Ligament Constructs with Exercise-conditioned Serum: A Translational Tissue Engineering Model

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Materials

Name	Company	Catalog Number	Comments
Austerlitz Insect pins, minuten stainless steel, size 0.20	Entomoravia	N/A	For brushite cement anchors
β-tricalcium phosphate	Plasma Biotol Ltd (Derbyshire, UK)	N/A	For brushite cement anchors
o-phosphoric acid, 85% (w/w)	EMD Millipore	PX0995	For brushite cement anchors
Citric acid	Sigma-Aldrich	251275-500g	For brushite cement anchors
Falcon 35 mm tissue culture dishes	Fisher Scientific	08-772A	For silicone-coated plates
Sylgard 184 silicone elastomer kit	Ellsworth Adhesives	4019862	For silicone-coated plates
1x Phosphate-buffered saline (PBS)	Fisher Scientific	SH3002802	For cell isolation and expansion
100x antibiotic/antimycotic solution	VWR	45000-616	For cell isolation
Type II collagenase	Thermo Fisher Scientific	17101015	For cell isolation
100x penicillin/streptomycin solution	Thermo Fisher Scientific	15140122	For cell isolation
Steriflip-GP, 0.22 μm pore, polyethersulfone, gamma irradiated	EMD Millipore	SCGP00525	For reagent sterilization
DMEM high glucose with sodium pyruvate and L-glutamine	VWR	10-013-CV	For cell and tissue culture
Fetal bovine serum	BioSera	FBS2000	Component of tissue digestion media and growth media
Penicillin G Potassium Salt	MP Biomedicals	0219453680 - 100 MU	Component of growth media. Dissolve in water to 100,000 U/mL, filter sterilize, aliquot, and store at -20°C.
CELLSTAR polystyrene tissue culture dishes (145 mm x 20 mm)	VWR	82050-598	For cell culture
Trypan blue	Thermo Fisher Scientific	T10282	For cell isolation
Trypsin-EDTA (0.25%)	Thermo Fisher Scientific	25200056	For cell culture. Dilute to 0.05% in PBS
Dimethyl sulfoxide	Sigma-Aldrich	472301	For cell freezing media
Nalgene Mr. Frosty Cryogenic Freezing Container	Thermo Fisher Scientific	5100-0001	For cell freezing
BD Vacutainer Red Plastic 10 mL	Fisher Scientific	367820	For human serum collection
Bound Tree Insyte Autoguard IV Catheters, 22 G x 1 inch Needle	Fisher Scientific	354221	For human serum collection
Thrombin, bovine origin	Sigma-Aldrich	T4648-1KU	For engineered ligament formation. Dissolve at 200 U/mL in DMEM high glucose media. Filter at 0.22 μm, aliquot, and store at -20 °C.

Fibrinogen, bovine origin	Sigma-Aldrich	F8630-5G	For engineered ligament formation. Dissolve at 20 mg/mL in DMEM high glucose media. Filter at 0.22 μ m, aliquot, and store at -20 °C.
Aprotinin from bovine lung	Sigma-Aldrich	A3428	For engineered ligament formation. Dissolve at 10 mg/mL in water. Filter at 0.22 μ m, aliquot, and store at -20 °C.
6-Aminohexanoic acid	Sigma-Aldrich	07260-100g	For engineered ligament formation. Dissolve at 0.1g/mL in water. Filter at 0.22 μ m, aliquot, and store at 4 °C.
L-Ascorbic acid 2-phosphate sesquimagnesium salt hydrate	Sigma-Aldrich	A8960-5G	Component of feed media. Dissolve in DMEM high glucose media at a concentration of 50 mM. Filter at 0.22 μ m and store at 4 °C.
L-proline	Sigma-Aldrich	P5607-25G	Component of feed media. Dissolve in PBS at a concentration of 50 mM. Filter at 0.22 μ m and store at 4 °C.
Transforming growth factor- β 1	Peprtech	100-21	Component of feed media. Reconstitute according to manufacturer's instructions at a concentration of 10 μ g/mL. Aliquot and store at -20 °C.
Stericup-GP, 0.22 μ m, polyethersulfone, 250 mL, radio-sterilized	EMD Millipore	SCGPU02RE	For reagent sterilization
Hydrochloric acid	Fisher Scientific	A144-212	Dilute in water to 6 M
4-Dimethylaminobenzaldehyde	Sigma-Aldrich	39070-50g	For hydroxyproline assay
Chloramine-T trihydrate	Sigma-Aldrich	402869-100g	For hydroxyproline assay
trans-4-Hydroxy-L-proline	Sigma-Aldrich	H54409-100g	For hydroxyproline assay
1-propanol	Sigma-Aldrich	279544-1L	For hydroxyproline assay
Perchloric acid	Sigma-Aldrich	311421-250ml	For hydroxyproline assay
Acetic acid, glacial	EMD Millipore	AX0073-9	For hydroxyproline assay
Sodium hydroxide	Fisher Scientific	S318-500	For hydroxyproline assay
Toluene, anhydrous	Sigma-Aldrich	244511-1L	For hydroxyproline assay
Corning Costar Clear Polystyrene 96-Well Plates	Fisher Scientific	07-200-656	For hydroxyproline assay