

Materials List for

# Murine Hind Limb Explant Model for Studying the Mechanobiology of Achilles Tendon Impingement

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## Materials

Name	Company	Catalog Number	Comments
Absorbent underpads	VWR	82020-845	For benchtop dissection
Acrylic bath	Source One	X001G46CB1	Contains the explant platform submerged in culture media
Autoclave bin	Thermo Scientific	13-361-20	Used as secondary containment, holds two platforms
Base	-	-	3D printed from CAD files provided as Supplementary Files
Braided line	KastKing	30lb test	Used to wrap around paw and apply ankle dorsiflexion
Clip	-	-	3D printed from CAD files provided as Supplementary Files
Cover glass	Fisherbrand	12-541-034	Rectangular, No. 2, 50 mm x 24 mm
Cytoseal XYL	VWR	8312-4	Xylene-based mounting media for coverslipping Toluidine blue stained tissue sections
Dexamethasone	MP Biomedical LLC	194561	CAS#50-02-2
Dimethyl sulfoxide (DMSO), anhydrous	Invitrogen by ThermoFisher	D12345	CAS#67-68-5, use to solubilize dexamethasone into concentrated stock solutions
Double-sided tape	Scotch Brand	34-8724-5195-9	To attach sandpaper to Grip platens
Dulbecco's Modified Eagle Medium (1X DMEM)	Gibco by ThermoFisher	11965092	high glucose, (-) pyruvate, (+) glutamine
EDTA tetrasodium salt dihydrate	Thermo Scientific Chemicals	J15700.A1	CAS#10378-23-1, used to make 14% EDTA solution for sample decalcification
Ethanol, 200 proof	Thermo Scientific	T038181000	CAS#64-17-5, 1 L supply
Foam biopsy pads	Leica	3801000	Used with processing cassettes, help hold ankle joints in desired position during fixation and decalcification
Forceps, #SS Standard Inox	Dumont	11203-23	Straight, smooth, fine tips
Forceps, Micro-Adson 4.75"	Fisherbrand	13-820-073	Straight, fine tips with serrated teeth

Garnet Sandpaper, 50-D Grit	Norton	M600060 01518	Or other coarse grit sandpaper
Glacial acetic acid	Fisher Chemical	A38S-500	CAS#64-19-7, for adjusting pH of sodium acetate buffer used for Toluidine blue histology, as well as 14% EDTA decalcification solution
Grips	ADMET	GV-100NT-A4	Stainless steel vice grips, screws and springs described in the protocol are included
Histobond Adhesive Microscope Slides	VWR	16005-108	Sagittal sections of hind limbs explants reliably adhere to these slides through all staining protocols
In situ Cell Death Detection Kit, TMR Red	Roche	12156792910	TUNEL assay
Labeling tape	Fisherbrand	15-959	Or any other labeling tape of preference
L-ascorbic acid	Sigma-Aldrich	A4544-100G	CAS#50-81-7, for culture media formulation
Neutral buffered formalin, 10%	Leica	3800600	For sample fixation, 5 gallon supply
Nunc petri dishes	Sigma-Aldrich	P7741-1CS	100 mm diameter x 25 mm height, maintain explants submerged in 70 mL of culture media as described in protocol
Penicillin-streptomycin (100X)	Gibco by ThermoFisher	15140122	Add 5 mL to 500 mL 1X DMEM for 1% v/v (1X) working concentration
Polylactic acid (PLA) 1.75 mm filament	Hatchbox	-	Choose filament diameter compatible with your 3D printer extruder, in color of choice.
Processing cassettes	Leica	3802631	For fixation, decalcification and paraffin embedding
Prolong Gold Antifade Reagent with DAPI	Invitrogen by ThermoFisher	P36931	Mounting media for coverslipping tissue sections after TUNEL
Proteinase K	Fisher BioReagents	BP1700-50	CAS#39450-01-6, used for antigen retrieval in TUNEL protocol
Scissors, Fine	FST	14094-11	Straight, sharp
Slide Staining Set, 12-place	Mercedes Scientific	MER 1011	Rack with 12 stain dishes and slide dippers for Toluidine blue histology
Sodium acetate, anhydrous	Thermo Scientific Chemicals	A1318430	CAS#127-09-3, used to make buffer for Toluidine blue histology
Tissue-Tek Accu-Edge Low Profile Microtome Blades	VWR	25608-964	For paraffin sectioning
Toluidine Blue O	Thermo Scientific Chemicals	348601000	CAS#92-31-9
Volume Reduction Insert	-	-	3D printed from CAD files provided as Supplementary Files
Xylenes	Leica	3803665	4 gallon supply for histological staining