

Materials List for:

# A Lab-On-A-Chip Platform for Stimulating Osteocyte Mechanotransduction and Analyzing Functional Outcomes of Bone Remodeling

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## Materials

Name	Company	Catalog Number	Comments
Acrylic sheet	Optix	--	3.175 mm thick
Angled dispensing tips	Jensen Global	JG18-0.5X-90	Remove plastic connector prior to use
Biopsy punch	Robbins Instruments	RBP-10	1 mm diameter
Bone wafers	Boneslices.com	0.4 mm thick	Bovine cortical bone
Bovine calf serum	Hyclone	SH30072	
Calipers	Global Industrial	T9F534164	
Cell spatula	TPP	99010	
Chip mask	ProtoLabs	Custom-designed	Print material: Accura SL 5530
Cork borer	Fisher Scientific	07-865-10B	
Cotton tipped applicator	Puritan	806-WCL	
Culture dish (100 mm)	Corning	430591	Sterile, Non-tissue culture treated
Culture dish (150 mm)	Corning	430597	Sterile, Non-tissue culture treated
Double sided tape	3M Company	Scotch 237	
Fetal bovine serum	Hyclone	SH30910	
Forceps	Fisher Scientific	22-327379	
Leveling box	Custom-made	--	3D printed
Masking tape	3M Company	Scotch 2600	
MC3T3-E1 preosteoblasts	ATCC	CRL-2593	Subclone 4
Mechanical loading device	Custom-made	--	3D printed
Minimum essential alpha medium	Gibco	12571-063	
MLO-Y4 osteocytes	--	--	Gift from Dr. Lynda Bonewald
Packaging tape	Duck Brand	--	Standard packaging tape
Paraffin film	Bemis Parafilm	PM999	
Penicillin/streptomycin	Invitrogen	p4333	
Plasma cleaner	Harrick Plasma	PDC-001	Expanded plasma cleaner
Polydimethylsiloxane kit	Dow Corning	Sylgard 184	
Polystyrene coverslips	Nunc Thermanox	174942	Sterile, tissue culture treated
Oven	Quincy Lab	12-180	
RAW264.7 preosteoclasts	ATCC	TIB-71	
Scalpel	BD Medical	372611	
Silicone tubing	Saint-Gobain Tygon	ABW00001	ID: 1/32" (0.79 mm), OD: 3/32" (2.38 mm)
SolidWorks software	Dassault Systèmes	--	Used to generate 3D printed models and perform FEA

Spray adhesive	Loctite	2323879	Multi-purpose adhesive
Syringe (5 ml)	BD Medical	309646	Sterile
Syringe pump	Harvard Apparatus	70-2213	Pump 11 Pico Plus
Tapered laboratory spatula	Fisher Scientific	21-401-10	
Two-part epoxy	Loctite	1395391	5 minute quick set
Type I collagen	Corning	354236	Rat tail collagen
Vacuum desiccator	Bel-Art	F42010-0000	
Waterproof sealant	Gorilla	8090001	100% silicone sealant