

Materials List for:

# A Microfluidic Platform for Stimulating Chondrocytes with Dynamic Compression

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URL: <https://www.jove.com/video/59676>

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## Materials

Name	Company	Catalog Number	Comments
(3-Aminopropyl)triethoxysilane (ATPES)	Sigma-Aldrich	741442-100ML	
(Tridecafluoro-1, 1, 2, 2-Tetrahydrooctyl)-1-Trichlorosilane	United Chemical Technologies	T2492-KG	
Acrylic sheet	McMaster-Carr	8560K354	
Air pump	Schwarzer Precision	SP 500 EC-LC4.5V DC	We used the model purchased in 2015. The internal design and performance of air pump (SP 500 EC-LC) changed in early 2016. Also, air pump performance has changed in the course of time. Thus, air pressure generated by an SP 500 EC-LC air pump should be calibrated before use.
Alginate powder	FMC Corporation	Pronova UP MVG	
Barb Straight Connectors (Metal tube)	Pneumadyne	EB40-250	
Calcein AM	Invitrogen	C3100MP	
Dulbecco's Modified Eagle Medium (DMEM)	Gibco	11960-044	
Dyed red aqueous fluorescent particles	Thermo Fisher Scientific	R0100	
EDC (1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride)	Thermo Fisher Scientific	22980	
Foam pad	GRAINGER	Item # 5GCE8	
Function / Arbitrary Waveform Generator	Keysight Technologies	33210A	
Hydrochloric acid	Fisher Chemical	A144-500	
Hydrogen peroxide	Fisher BioReagents	BP2633500	
Isopropyl alcohol	BDH1174-4LP	VWR	
Microscope slides	Thermo Fisher Scientific	22-267-013	
Plasma cleaner	Harrick Plasma	PDC-001	
Polydimethylsiloxane (PDMS)	Dow Corning	184 SIL ELAST KIT 0.5KG	
Power supply	Keysight Technologies	E3630A	
SeaKem LE Agarose	Lonza	50004	
Sodium hydroxide	Fisher Chemical	S318-1	

Solenoid manifold	Pneumadyne	MSV10-1	
Solenoid valve	Pneumadyne	S10MM-30-12-3	
Spin coater	Laurell Technologies	WS-650Mz-23NPPB	
SU8 Developer	MicroChem Corp.	Y020100 4000L1PE	
SU8-100	MicroChem Corp.	Y131273 0500L1GL	
SU8-5	MicroChem Corp.	Y131252 0500L1GL	
Sulfo-NHS (N-hydroxysulfosuccinimide)	Thermo Fisher Scientific	24510	
Sulfuric acid	EMD Millipore	MSX12445	