

Materials List for:

# Synthesis of Thermogelling Poly(N-isopropylacrylamide)-graft-chondroitin Sulfate Composites with Alginate Microparticles for Tissue Engineering

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## Materials

Name	Company	Catalog Number	Comments
N-isopropylacrylamide, 99%, pure, stabilized	Acros Organics	2210-25-5	Refrigerate and remove stabilier with hexane
Chondroitin sulfate A sodium salt (from bovine trachea)	Sigma-Aldrich	39455-18-0	Refrigerate
Hexanes	Fisher Scientific	H302-4	Store in a flammable cabinet
50% (w/w) sodium hydroxide	Fisher Scientific	SS254-1	Caustic in nature
Methacrylic anhydride	Sigma-Aldrich	276685	Strong fumes; use in a fume hood
Acetone	Fisher Scientific	A18-4	Chill in a refrigerator prior to use
Nitrogen Gas	Praxair	7727-37-9	Part Number: NI 4.8, cylinder style T, 99.998% pure nitrogen (Argon may be used as an alternative inert gas)
Tetramethylethylenediamine, 99% extra pure	Acros Organics	110-18-9	
Ammonium persulfate	Sigma Aldrich	A3678	Hygroscopic and degrades in the presence of water
Phosphate buffered saline tablets	Fisher Scientific	BP2944	Keep dry
Alginic acid, sodium salt	Acros Organics	177775000	Use heat to aid in dissolving
Calcium chloride dihydrate	Fisher Scientific	C79	
Canola oil	Local store		Obtain from a local store
Tween 20	Sigma-Aldrich	93773	
70% (v/v) Isopropanol	Fisher Scientific	A416-4	
Porcine ears	Haine's Pork Shop		Obtain from a local butcher
Sodium Chloride	Fisher Scientific	S271-3	
Human embryonic kidney 293 cells	ATCC	ATCC CRL-1573	Store in liquid nitrogen for long-term use
DMEM: 1x, high glucose, no pyruvate	Life Technologies	11965126	Refrigerate
Fetal bovine serum	Life Technologies	10082-147	Refrigerate
Penn Strep: 10,000 U/ml	Life Technologies	15140-122	Refrigerate
Trypsin-EDTA: 0.5%, 10x	Life Technologies	15400-054	Refrigerate
Methanol	VWR	AAA44571-K7	
Live/Dead Cell viability kit	Life Technologies	L3224	Light sensitive, keep frozen
XTT cell viability kit	Sigma Aldrich	TOX2-1KT	Light sensitive, keep frozen

Clear DMEM: 1x, high glucose, no phenol	Life Technologies	21063-029	Refrigerate
Dulbecco's PBS: 1x	Life Technologies	14190136	Refrigerate
Sodium citrate	EMD	SX0445-1	
Positive displacement pipette	BrandTech Scientific, INC	2702904	Dispenses 100 - 500 $\mu$ l and comes with attachable tips
No 3. Stainless Steel scalpel handle	Sigma Aldrich	S2896	
Miltex sterile surgical blades	Fisher Scientific	12-460-440	Size 10
Power gem homogenizer	Fisher Scientific	08-451-660	Model # 125
Porcelain mortar and pestle	Sigma Aldrich	Z247464	Holds 50 ml
FreeZone 1 L benchtop freeze dry system	Labconco	7740020	Freeze samples prior to use
Oil sealed rotary vane pump	Edwards	A65301906	Model # RV5
Incubating orbital shaker	VWR	12620-946	Model # 980153
Benchtop refrigerated centrifuge	Forma Scientific, INC		Model # 5682
Heated ovens	VWR		Model # 1235PC
2 N force gauge	Shimpo	FGV-0.5XY	Model # FGV-0.5XY
E-force test stand	Shimpo	FGS-200PV	Model # FGS-200PV
Tissue culture swinging bucket centrifuge	Beckman Coulter	366830	Model #6S-6KR
Tissue culture microcentrifuge	Eppendorf		Model #5415C
Hemocytometer set	Hausser Scientific	3720	Requires replacement cover glass slips
Slide warmer	Lab Scientific	XH-2022	Model # XH-2002
Portable heating lamp	Underwriters Laboratories		Helps to maintain polymer temperature at 37 °C
Inverted fluorescent microscope	Zeiss		Model Axiovert 25 CFL
Heated water bath	VWR		Model # 1235PC
Rocking platform	VWR		Series 100
Multiskan FC microtiter plate reader	Thermo Scientific		Type 357
Cell culture incubator	VWR		Model # 2350T
Purifier class II biosafety cabinet	Labconco		Delta Series