

Materials List for:

Fabricating a Kidney Cortex Extracellular Matrix-Derived Hydrogel

Harrison L. Hiraki¹, Ryan J. Nagao², Jonathan Himmelfarb³, Ying Zheng²

¹Department of Bioengineering, University of Washington

²Department of Bioengineering, Center for Cardiovascular Biology, Institute for Stem Cell and Regenerative Medicine, University of Washington

³Department of Medicine, Kidney Research Institute, University of Washington

Correspondence to: Jonathan Himmelfarb at himmej@uw.edu, Ying Zheng at yingzy@uw.edu

URL: <https://www.jove.com/video/58314>

DOI: [doi:10.3791/58314](https://doi.org/10.3791/58314)

Materials

Name	Company	Catalog Number	Comments
Preparation of Kidney Tissue			
5000 mL Beaker	Sigma-Aldrich	Z740589	
Sodium Dodecyl Sulfate (SDS)	Sigma-Aldrich	436143	
Sterile H ₂ O			Autoclaved DI H ₂ O
Stir Bar (70 x 10 mm)	Fisher Science	14-512-128	
500 mL Vacuum Filter	VWR	97066-202	
Stir Plate	Sigma-Aldrich	CLS6795420D	
1000 mL Beaker	Sigma-Aldrich	CLS10031L	
Forceps	Sigma-Aldrich	F4642	Any similar forceps may be used
Scissor-Handle Hemostat Clamp	Sigma-Aldrich	Z168866	
Dissecting Scissors	Sigma-Aldrich	Z265977	
Scalpel Handle, No. 4	VWR	25859-000	Any similar scalpel handle may be used
Scalpel Blade, No. 20	VWR	25860-020	Any similar scalpel blade may be used
Stir Bar (38.1 x 9.5 mm)	Fisher Science	14-513-52	
Absorbent Underpad	VWR	82020-845	
Petri Dish (150 x 25 mm)	Corning	430597	
Autoclavable Biohazard Bag	VWR	14220-026	
Sterile Cell Strainer (40 µm)	Fisher Science	22-363-547	
Cell Culture Grade Water	HyClone	SH30529.03	
30 mL Freestanding Tube	VWR	89012-778	
Fabrication of ECM Gel			
Tissue Homogenizer Machine	Polytron	PCU-20110	
Freeze Dryer	Labconco	7670520	
20 mL Glass Scintillation Vials and Cap	Sigma-Aldrich	V7130	
Stir Bar (15.9 x 8 mm)	Fisher Science	14-513-62	
Pepsin from Porcine Gastric Mucosa	Sigma-Aldrich	P7012	
0.01 N HCl	Sigma-Aldrich	320331	Dilute to 0.01 N HCl with cell culture water
Kidney ECM Gelation			
1 N NaOH (Sterile)	Sigma-Aldrich	415413	Dilute to 1 N in cell culture grade water

Medium 199	Sigma-Aldrich	M4530	
15 mL Conical Tube	ThermoFisher	339651	
Cell Culture Media	ThermoFisher	11330.032	Dulbecco's Modified Eagle Medium: Nutrient Mixture F-12 (DMEM/F12)
Fetal Bovine Serum (FBS)	Gibco	10082147	
Antibiotic-Antimycotic 100X	Life Technologies	15240-062	
Insulin, Transferrin, Selenium, Sodium Pyruvate Solution (ITS-A) 100X	Life Technologies	51300-044	
1 mL Syringe	Sigma-Aldrich	Z192325	
Microspatula	Sigma-Aldrich	Z193208	