

Materials List for:

In Vitro Colony Assays for Characterizing Tri-potent Progenitor Cells Isolated from the Adult Murine Pancreas

Jacob R. Tremblay*^{1,2}, Jeanne M. LeBon*¹, Angela Luo¹, Janine C. Quijano¹, Lena Wedeken¹, Kevin Jou¹, Arthur D. Riggs¹, David A. Tirrell³, H. Teresa Ku¹

¹Diabetes and Metabolism Research Institute, Beckman Research Institute of City of Hope

²Irell & Manella Graduate School of Biological Sciences, Beckman Research Institute of City of Hope

³Division of Chemistry and Chemical Engineering, California Institute of Technology

*These authors contributed equally

Correspondence to: H. Teresa Ku at hku@coh.org

URL: <https://www.jove.com/video/54016>

DOI: [doi:10.3791/54016](https://doi.org/10.3791/54016)

Materials

Name	Company	Catalog Number	Comments
Murine ECM proteins (Matrigel)	Becton Dickson (Franklin Lakes, NJ, USA)	354230	Stock kept at -20 °C
Laminin Hydrogel	Provided by David Tirrell (Pasadena, CA USA)		Stock kept at -20 °C
Methylcellulose	Shinetsu Chemical (Tokyo, Japan)		1,500 centipoise (dynamic viscosity unit equal to 15 g/cm/sec) (high viscosity)
Dulbecco's Phosphate-Buffered Saline	Mediatech (Manassas, VA, USA)	21-031-CV	
Phosphate Buffered Saline	Gibco (Grand Island, NY, USA)	15070-063	
50 ml Flacon Conical vial	Corning Inc. (Corning, NY, USA)	352070	
100 mm x 20 mm Suspension culture dish	Corning Inc. (Corning, NY, USA)	430591	
Bovine Serum Albumin	Sigma (St. Louis, MO, USA)	A8412	
Penicillin/Streptomycin	Gibco (Grand Island, NY, USA)	15070-063	
DNase1	Calbiochem (Darmstadt, Germany)	260913	
Collagenase B	Roche (CH-4070, Basel, Schweiz, Switzerland)	11088831001	Stock kept at -20 °C
Anti-mouse CD16/32	Biolegend (San Diego, CA, USA)	101310	low endotoxin, azide free
PE-Cy7 Rat IgG2a κ Isotype Control	Biolegend (San Diego, CA, USA)	400522	
Rat IgG1 κ Isotype Control	eBioscience (San Diego, CA, USA)	13-4301-82	
Anti-CD133-Biotin	eBioscience (San Diego, CA, USA)	13-1331-82	
Anti-CD71-PE-Cy7	Biolegend (San Diego, CA, USA)	113812	
Streptavidin-Allophycocyanin	Biolegend (San Diego, CA, USA)	405207	
4',6-Diamidino-2-phenylindole	Invitrogen (Waltham, MA, USA)	3571	Stock kept at -20 °C
Anti-mucin 1	Thermo Fisher Scientific (Waltham, MA USA)	HM-1630-P1	
Dylight 649 Goat anti-Armenian Hamster	Jackson Immuno (West Grove, PA, USA)	127-495-160	
Dulbecco's Modified Eagle Medium: Nutrient Mixture F-12	Mediatech(Manassas, VA, USA)	10-092-CV	
Fetal Bovine Serum	Tissue Culture Biologicals (Long Beach, CA, USA)	101	Stock kept at -20 °C

Tris Ethylenediaminetetraacetic acid	TEKnova (Hollister, CA, USA)	T0221	
Rneasy Micro Kit	Qiagen (Venlo, Netherlands)	74004	
QuantiTec Reverse Transcription Kit	Qiagen (Venlo, Netherlands)	205310	
CellsDirect One-Step qRT-PCR Kit	Ambion/Invitrogen(Grand Island, NY, USA)	11753-100	
Paraformaldehyde	Santa Cruz Bio (Santa Cruz, CA, USA)	SC-281692	
Goat serum	Jackson Immuno (West Grove, PA, USA)	005-000-121	Stock kept at -20 °C
Donkey serum	Jackson Immuno (West Grove, PA, USA)	0017-000-121	Stock kept at -20 °C
Triton X-100	Sigma (St. Louis, MO, USA)	T9284	
Trypsin	Sigma (St. Louis, MO, USA)	T-4799	
Ethylenediaminetetraacetic acid	Invitrogen (Waltham, MA, USA)	15575-020	
Trypsin-EDTA	Life Technologies (Waltham, MA, USA)	25200-056	
Sterile Water	Gibco (Grand Island, NY, USA)	15230-147	Molecular biology grade
Pasteur Pipette	Fisher Scientific (Pittsburgh, PA, USA)	13-678-8B	
40 µm Filter Mesh	Fisher Scientific (Pittsburgh, PA, USA)	08-771-1	
70 µm filter mesh	Fisher Scientific (Pittsburgh, PA, USA)	08-771-2	
TC Plate 96 Well Suspension	Sarstedt	83.3924 (Previously 83.1835)	
1 cc Syringe	Becton Dickson (Franklin Lakes, NJ, USA)	309659	
10 cc Syringe	Becton Dickson (Franklin Lakes, NJ, USA)	301604	
48.48 Dyanmic Array Chip	Fluidigm (San Francisco, CA, USA)	BMK-M-48.48	
Fluidigm GE 48.48 Dynamic Array Sample & Assay Loading Reagent Kit	Fluidigm (San Francisco, CA, USA)	85000800	
TaqMan Universal PCR Master Mix	Applied Biosystems (Grand Island, NY, USA)	4304437	
Polyethylene glycol sorbitan monolaurate	Sigma (St. Louis, MO, USA)	P7949	
Glass Bottom Dish	MatTek (Ashland, MA, USA)	P35G-1.5-14-C	35 mm Petri dish with glass bottom
Mouth Piece/Rubber Tubing	Renova Life Inc. (College Park, MD, USA)	MP-SET	
Nicotinamide	Sigma (St. Louis, MO, USA)	N0636	Stock kept at -20 °C
Vascular Endothelial Growth Factor	R&D Systems (Minneapolis, MN, USA)	293-VE	Stock kept at -80 °C
Activin B	R&D Systems (Minneapolis, MN, USA)	659-AB	Stock kept at -80 °C
Extendin 4	Sigma (St. Louis, MO, USA)	E7144	Stock kept at -20 °C
Rspodin-1	R&D Systems (Minneapolis, MN, USA)	3474-RS	Stock kept at -80 °C
Falcon 5 ml Polystyrene Round-Bottom Tube	Corning Inc. (Corning, NY, USA)	352054	
PrecisionGlide Needle 18 G x1 1/2	Becton Dickson (Franklin Lakes, NJ, USA)	305196	

PrecisionGlide Needle 16 G x 1 1/2	Becton Dickson (Franklin Lakes, NJ, USA)	305198	
Costar Ultra-Low Attachment Surface 24 well flat bottom plate	Corning Inc. (Corning, NY, USA)	3473	
Costar 96 Black Well Plate	Corning Inc. (Corning, NY, USA)	3603	Flat, clear bottom with lid. Black polystyrene TC-treated microplates
Zeiss LSM510 META NLO Axiovert 200M Inverted Microscope	Carl Zeiss AG (Oberkochen, Germany)		
Biomark HD	Fluidigm (San Francisco, CA, USA)		
Aria Special Order Research Product Cell Sorter	Becton Dickson (Franklin Lakes, NJ, USA)		
PBS/BSA			1x PBS 0.1% (wt/vol) BSA PenStrep (49 Units/ml Penicillin, 49 µg/ml Streptomycin)
PBS/BSA/Dnase1			1x PBS 0.1% (wt/vol) BSA PenStrep (49 Units/ml Penicillin, 49 µg/ml Streptomycin) Dnase 1 (2,400 Units/ml per pancreas)