

Materials List for:

Aggregate Size Optimization in Microwells for Suspension-based Cardiac Differentiation of Human Pluripotent Stem Cells

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URL: <https://www.jove.com/video/54308>

DOI: [doi:10.3791/54308](https://doi.org/10.3791/54308)

Materials

Name	Company	Catalog Number	Comments
Biological safety cabinet			
Pipette aid			
Serological pipettes (5 to 25 ml)			
Aspirator			
Aspirator or Pasteur pipettes			
15 and 50 ml conical tubes			
Fume hood			
0.22 µm syringe filter			
5% CO ₂ , 5% O ₂ , and humidity controlled cell culture incubator			Hypoxic (low oxygen) incubator
5% CO ₂ , 20% O ₂ , and humidity controlled cell culture incubator			
Low speed centrifuge with a swinging bucket rotor fitted with a plate holder			
P2, P20, P200, and P1000 micropipettors and associated tips			
Inverted microscope with 4X, 10X and 20X phase objectives			
Ultra-Low Attachment (ULA) 24 well plates	Corning/Costar	3473	
1.5 ml microcentrifuge tubes			
Bench-top microcentrifuge			
L-Ascorbic Acid	Sigma-Aldrich	A4403	
Sterile Ultrapure distilled water	Sigma-Aldrich	W3500	
Vortex			
Ice			
-20 °C freezer			
Monothioglycerol	Sigma-Aldrich	M6145	Toxic; Aliquoting of MTG is strongly recommended to minimize oxidation due to repeated opening. Aliquots can be stored at 4 °C for up to 3 months, -20 °C is recommended for long-term storage.

StemPro-34 Medium	Thermo Fisher Scientific	10639-011	Basal Cardiac Induction Medium; The supplement is stored at -20 °C and the basal medium at 4 °C.
Transferrin	Roche	10652202001	
BMP-4	R&D Technologies	314-BP	
bFGF	R&D Technologies	233-FB	
VEGF	R&D Technologies	293-VE	
Activin A	R&D Technologies	338-AC	
IWP-2	Reagents Direct	57-G89	
Phosphate buffered saline (PBS)	Thermo Fisher Scientific	14190	
Bovine Serum Albumin (BSA)	Thermo Fisher Scientific	15561	
Hydrochloric acid	Sigma-Aldrich	258148	Corrosive
Dimethylsulfoxide (DMSO)	Sigma-Aldrich	D2650	
DMEM/F-12	Thermo Fisher Scientific	12660	
100x Penicillin/Streptomycin	Thermo Fisher Scientific	15140	
100x L-glutamine	Thermo Fisher Scientific	25030	
Knockout Serum Replacement	Thermo Fisher Scientific	10828010	
TrypLE Select	Thermo Fisher Scientific	12563	Dissociation enzyme
Hemocytometer			
Trypan Blue			
Aggrewell 400 plates	StemCell Technologies	27845	Microwell Plates
Aggrewell Rinsing Solution	StemCell Technologies	7010	Microwell Rinsing Solution
Y-27632 ROCK Inhibitor	Tocris	1254	
Collagenase Type II	Sigma-Aldrich	C6885	
Hank's Balanced Salt Solution	Thermo Fisher Scientific	14025092	
Fetal Bovine Serum	Thermo Fisher Scientific	12483	
96 well plate (for FACS staining)			
Intraprep Permeabilization Reagent	Beckman Coulter	IM2389	Kit with 2 parts: Fixation Solution and Permeabilization Solution; Toxic
cTnT antibody	Neomarkers	MS-295	
goat anti-mouse-IgG APC antibodyThermoFisher	Molecular Probes	A865	
5 ml round bottom flow cytometry tubes	FACS machine dependent		