

Materials List for

Flow Cytometry-Based Quantification and Analysis of Myocardial B-cells

Kevin C. Bermea¹, Sylvie T. Rousseau¹, Luigi Adamo¹

¹Division of Cardiology, Department of Medicine, The Johns Hopkins University School of Medicine

Corresponding Author

Luigi Adamo

ladamo2@jhmi.edu

Citation

Bermea, K.C., Rousseau, S.T., Adamo, L. Flow Cytometry-Based Quantification and Analysis of Myocardial B-cells. *J. Vis. Exp.* (186), e64344, doi:10.3791/64344 (2022).

Date Published

August 17, 2022

DOI

10.3791/64344

URL

jove.com/video/64344

Materials

Name	Company	Catalog Number	Comments
Alexa Fluor 700 anti-mouse/human CD11b Antibody	101222	BioLegend	100 µg 200 µL
(CellTreat 29481) Cell Strainer, 40 µm, Blue	QBIAP303	Southern Labware	
0.5 mL Natural Microcentrifuge Tube	1605-0000	SealRite, USA Scientific	
0.9% Sodium Chloride Injection, USP	114-055-101	Quality Biological	0.90%
1.5 mL Natural Microcentrifuge Tube	1615-5500	SealRite, USA Scientific	
10 µL Graduated TipOne Filter Tips	11213810	USA Scientific	
1000 µL Graduated TipOne Filter Tips	11267810	USA Scientific	
15 mL Centrifuge Tube, Plug Seal Cap, Polypropylene, RNase-/DNase-free	430052	Corning	
1-Way Stop Valve, Polycarbonate	SVPT951	ECT Manufacturing	
2,2,2-Tribromoethanol	T48402	Sigma-Aldrich	
200 µL Graduated TipOne Filter Tips	11208810	USA Scientific	
3-Way Stop Valve, Polycarbonate	SVPT953	ECT Manufacturing	
5 mL Polystyrene Round-Bottom Tube, 12 x 75 mm style	352054	Falcon, a Corning Brand	
50 mL Centrifuge Tube, Plug Seal Cap, Polypropylene, RNase-/DNase-free	430290	Corning	
ACK (Ammonium-Chloride-Potassium) Lysing Buffer	118-156-101	Quality Biological	Osmolality: 290 + or -5% mOsm/Kg H2O
Adapter 4x50ml, for 250 mL rectangular bucket in Rotor A-4-63	5810759005	Eppendorf	
Adapter for 15 mL Centrifuge Tubes, 9 Tubes per Adapter, Conical Bottom for use with Rotor Model A-4-62	22638289	Eppendorf	
Adapter for 15 round-bottom tubes 2.6 – 7 mL, for 250 mL rectangular bucket in Rotor A-4-62	22638246	Eppendorf	
Aluminum Foil 12 in x 75' Roll .0007	UPC 109153	Reynolds Wrap	

Anesthesia Induction Chamber - Mouse	RWD-AICMV-100	Conduct Science	
BD Luer Slip Tip Syringe with attached needle 25 G x 5/8 in., sterile, single use, 1 mL	309626	BD Becton, Dickinson and Company	
Brandzig Ultra-Fine Insulin Syringes 29G 1cc 1/2" 100-Pack	CMD 2613	Brandzig	
Brilliant Violet 421 anti-mouse CD19 Antibody	115537	BioLegend	50 µg/mL
CAPS for Flow Tubes w/strainer mesh 35 µm, Dual position for 12 x 75 mm tubes, sterile	T9009	Southern Labware	
Carbon Dioxide USP E CGA 940	CD USPE	AirGas USA	
Cole-Parmer Essentials Low-Form Beaker, Glass, 500 mL	UX-34502-46	Cole-Parmer	
Collagenase 2	LS004176	Sigma-Aldrich	
Connector brass chrome plated 1/4" female NPT x 1/4" barb	Y992611-AG	AirGas USA	
Cytek Aurora Flow Cytometer		Cytek Biosciences	
Diss 1080 Nipple 1/4 BARB CP	M-08-12	AirGas USA	
DNase I - 40,000 U	D4527	Sigma-Aldrich	
Easypet 3 - Electronic Pipette Controller	4430000018	Eppendorf	
Electronic Balance, AX223/E	30100606	Ohaus Corp.	
Eppendorf 5810R centrifuge	5810R	Eppendorf	
Eppendorf Research plus 1-channel variable pipettes		Eppendorf	
FlowJo 10.8.1		BD Becton, Dickinson and Company	
GLACIERbrand, triple density Ice Pan (IPAN-3100)	Z740287	Heathrow Scientific	
HBSS (1x) - Ca2+ [+] Mg2+ [+]	14025076	gibco	1x
Hyaluronidase	H3506	Sigma-Aldrich	
Kelly Hemostats, Straight	13018-14	Fine Science Tools	
Luer Slip Syringe sterile, single use, 20 mL	302831	BD Becton, Dickinson and Company	
M1 Adj. Reg 0-100 PSI/CGA940	M1-940-PG	AirGas USA	
McKesson Underpads, Moderate	4033-CS150	McKesson	
Navigator Multi-Purpose Portable Balance	NV2201	Ohaus Corp.	
PBS pH 7.4 (1X) Ca2+ [-] Mg2+ [-]	10010023	gibco	1x
PE anti-mouse/human CD45R/B220 Antibody	103208	BioLegend	200 µg/mL
PerCP/Cyanine5.5 anti-mouse CD45 Antibody	103132	BioLegend	100 µg 500 µL
Petri dish, Stackable 35 mm x 10 mm Sterile Polystyrene	FB0875711YZ	Fisher Scientific	
Pkgd: Diss 1080 Nut/CO2/CO2-02	M08-1	AirGas USA	
Powerful 6 Watt LED Dual Goose-Neck Illuminator	LED-6W	AmScope	
PrecisionGlide Needle 25 G x 5/8 (0.5 mm x 16 mm)	305122	BD Becton, Dickinson and Company	
Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block) Clone 2.4G2 (RUO)	553141	BD Becton, Dickinson and Company Biosciences	0.5 mg/mL
R 4.1.1		The R Foundation	

Razor Blades	9501250000	Accutec Blades Inc	
Regulator analytical two stage 0-25 psi delivery CGA320 3500 psi inlet	Y12244A320-AG	AirGas USA	
Rotor A-4-62, incl. 4 x 250 mL rectangular buckets	Rotor A-4-62	Eppendorf	
Serological pipette, plugged, 10 mL, sterile, non-pyrogenic/endotoxin-free, non-cytotoxic, 1 piece(s)/blister	86.1254.001	Sarstedt AG & Co KG	
Sigma label tape	L8394	Sigma-Aldrich	
SpectroFlo 3.0.0		Cytek Biosciences	
Spex VapLock Luer Fitting, PP, Straight, Male Luer Lock x 1/8" Hose Barb; 1/EA	MTLL230-6005	Spex	
Std Wall Lab Tubing, Size S2, Excelon, 1/8" ID x 3/16" OD x 1/32" Wall x 50' Long	CG-730-003	Excelon Laboratory	
Syringe PP/PE without needle, 3 mL	Z683566	Millipore Sigma	
Syringe pump	55-1199 (95-240)	Harvard Apparatus	
Thomas 3-Channel Alarm Timer TM10500	9371W13	Thomas Scientific	
Tube Rack, 12 positions, 6 for 5.0 mL and 15 mL tubes and 6 for 25 mL and 50 mL tubes, polypropylene, numbered positions, autoclavable	30119835	Eppendorf	
Tube Rack, 12 positions, for 5.0 mL and 15 mL tubes, polypropylene, numbered positions, autoclavable	30119827	Eppendorf	
TYGON R-3603 Laboratory Tubing, I.D. x O.D. 1/4 in. x 3/8 in.	T8913 (Millipore Sigma)	Tygon, Saint-Gobain	
Vortex-Genie 2	SI-0236	Scientific Industries, Inc.	
VWR Dissecting Forceps with Guide Pin with Curved Tips	89259-946	Avantor, by VWR	
VWR Dissecting Scissors, Sharp Tip, 4½"	82027-578	Avantor, by VWR	
VWR Incubating Orbital Shaker, Model 3500I	12620-946	Avantor, by VWR	
Zombie Aqua Fixable Viability Kit	423102	BioLegend	