

Materials List for

Isolation of Cardiomyocytes from Fixed Hearts for Immunocytochemistry and Ploidy Analysis

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Materials

Name	Company	Catalog Number	Comments
96 wells plate for imaging	Corning	3340	We use these plates as they are suitable for imaging, although glass bottom plates would be better for confocal imaging
Alpha actinin	Novus Biologicals	NBP1-32462	This antibody is used as a marker of cardiomyocyte sarcomeres
Blunt scissors	Fine Scissor Tools	14072-10	We prefer blunt scissors as the possibility of tearing heart tissue is lower when exposing the heart
C57BL/6J	The Jackson Laboratory	664	Used for imaging, assessing ploidy and nucleation in cardiomyocyte population
CD-1 mice	Charles river	22	Used for imaging, assessing ploidy and nucleation in cardiomyocyte population
Collagenase 2	Worthington	LS004177	For the purpose of this protocol, the batch to batch differences are minimal and don't affect overall yield and quality of the isolation
Copper (II) sulfate pentahydrate	Sigma-Aldrich	203165-10G	For edu staining
Cy5 Picolyl Azide	Click Chemistry Tools	1177-25	Azide used for edu staining
Cytation3	BioTek	-	Used for automated imaging for DNA analysis
DAPI	Life Technologies	D3571	DAPI used for DNA staining. Stocks were dissolved in distilled water.
donkey anti-mouse IgG-Alexa568	Life Technologies	A10037	Secondary antibody used to detect alpha actinin staining within cardiomyocytes
Forceps	ROBOZ	RS-5137	We use these curved, blunt forceps, although straight forceps could also be used
Hydrochloric acid	Fisher Scientific	A144212	To set pH of Tris-HCl buffer to pH 8.5

ImageJ	imagej.net/Fiji/Downloads	-	Used for analyzing images
L-ascorbic acid	Sigma-Aldrich	255564-100G	For edu staining
Needle for infusion	TERUMO	SV*23BLK	We use winged infusion sets throughout the protocol as it is easy to manipulate the position of the needle with these sets during injection
Nikon A1R HD25	Nikon	-	Used to take confocal images of alpha actinin staining
Nylon mesh 200 micron	Elko filtering	03-200/54	Mesh used for filtering regular cardiomyocytes (not hypertrophied)
Nylon mesh 400 micron	Elko filtering	06-400/38	Mesh used for filtering hypertrophied adult cardiomyocytes
Phosphate Buffered Saline (1X)	Corning	21-040-CV	This can also be prepared in the lab. Although sterility is important in this experiment, we think it is sufficient to prepare PBS and filtering it
Potassium chloride, Granular	Mallinckrodt	6858	Granular potassium chloride was preferred by us as it forms less aggregates when stored in room temperature
R	r-project.org	-	Used for data analysis of the measurements obtained from images
Tris Base	Fisher Scientific	BP152-5	Used to buffer EdU staining reaction