

Materials List for

# In vitro Assessment of Cardiac Reprogramming by Measuring Cardiac Specific Calcium Flux with a GCaMP3 Reporter

Zhaokai Li<sup>\*1,2</sup>, Liu Liu<sup>\*1</sup>, Zhong Wang<sup>1</sup>

<sup>1</sup>Department of Cardiac Surgery, Cardiovascular Center, The University of Michigan, Ann Arbor <sup>2</sup>Department of Cardiovascular Medicine, Xiangya Hospital, Central South University

\*These authors contributed equally

## Corresponding Author

Zhong Wang

zhongw@med.umich.edu

## Citation

Li, Z., Liu, L., Wang, Z. In vitro Assessment of Cardiac Reprogramming by Measuring Cardiac Specific Calcium Flux with a GCaMP3 Reporter. *J. Vis. Exp.* (180), e62643, doi:10.3791/62643 (2022).

## Date Published

February 22, 2022

## DOI

10.3791/62643

## URL

jove.com/video/62643

## Materials

Name	Company	Catalog Number	Comments
15 mL Conical Centrifuge Tubes	Thermo Fisher Scientific	14-959-70C	
50mL Conical Centrifuge Tubes	Thermo Fisher Scientific	14-959-49A	
6 Well Cell Culture Plates	Alkali Scientific	TP9006	
A83-01	Stemgent	04-0014	
All-in-One Fluorescence Microscope	Keyence	BZ-X800E	Inverted fluorescence microscope
B-27 Supplement (50X), serum free	Thermo Fisher Scientific	17504044	
Blasticidin S HCl (10 mg/mL)	Thermo Fisher Scientific	A1113903	
Bovine Serum Albumin (BSA) DNase- and Protease-free Powder	Thermo Fisher Scientific	BP9706100	
CD90.2 MicroBeads, mouse	Miltenyi Biotec	130-049-101	Thy1.2 microbeads
Collagenase, Type 2	Thermo Fisher Scientific	NC9693955	
Counting Chamber	Thermo Fisher Scientific	02-671-51B	Hemocytometer
DMEM, high glucose, no glutamine	Thermo Fisher Scientific	11960069	
DPBS, calcium, magnesium	Thermo Fisher Scientific	14-040-133	
Ethanol, 200 proof (100%)	Thermo Fisher Scientific	04-355-451	
Ethylenediamine Tetraacetic Acid (Certified ACS)	Thermo Fisher Scientific	E478-500	
Fetal Bovine Serum	Corning	35-010-CV	
HBSS, calcium, magnesium, no phenol red	Thermo Fisher Scientific	14025092	
IMDM media	Thermo Fisher Scientific	12440053	
IX73 Inverted Microscope	Olympus	IX73P2F	Inverted fluorescence microscope
Lipofectamine 2000 Transfection Reagent	Thermo Fisher Scientific	11-668-019	
LS Columns	Miltenyi Biotec	130-042-401	

Medium 199, Earle's Salts	Thermo Fisher Scientific	11150059	
MidiMACS Separator and Starting Kits	Miltenyi Biotec	130-042-302	
Millex-HV Syringe Filter Unit, 0.45 µm, PVDF, 33 mm, gamma sterilized	Millipore Sigma	SLHV033RB	
MM589			Obtained from Dr. Shaomeng Wang's lab in University of Michigan
Opti-MEM I Reduced Serum Medium	Thermo Fisher Scientific	31-985-070	
PBS, pH 7.4	Thermo Fisher Scientific	10-010-049	
Penicillin-Streptomycin (10,000 U/mL)	Thermo Fisher Scientific	15140122	
Platinum-E (Plat-E) Retroviral Packaging Cell Line	Cell Biolabs	RV-101	
pMx-puro-MGT	Addgene	111809	
Poly(ethylene glycol)	Millipore Sigma	P5413-1KG	PEG8000
Polybrene Infection / Transfection Reagent	Millipore Sigma	TR-1003-G	
PTC-209	Sigma	SML1143-5MG	
Puromycin Dihydrochloride	Thermo Fisher Scientific	A1113803	
Recombinant Human IGF-I	Peprtech	100-11	
RPMI 1640 Medium	Thermo Fisher Scientific	11875093	
ST 16 Centrifuge Series	Thermo Fisher Scientific	75-004-381	
Sterile Cell Strainers	Thermo Fisher Scientific	22-363-547	40 µm strainer
Surface Treated Tissue Culture Dishes	Thermo Fisher Scientific	FB012921	
TE Buffer	Thermo Fisher Scientific	12090015	
Trypan Blue solution	Millipore Sigma	T8154	
Trypsin-EDTA (0.05%), phenol red	Thermo Fisher Scientific	25300054	
Vortex Mixer	Thermo Fisher Scientific	02215365	