

Generation and Characterization of Right Ventricular Myocardial Infarction Induced by Permanent Ligation of the Right Coronary Artery in Mice

 Ruoxi Liao¹, Mingyuan He², Donghong Hu², Chengzheng Gong¹, Huiying Du¹, Hairuo Lin², Huijun Sun³
¹The First Clinical College of Dalian Medical University ²Department of Cardiology, State Key Laboratory of Organ Failure Research, Nanfang Hospital, Southern Medical University ³College of Pharmacy, Dalian Medical University

Corresponding Authors

Donghong Hu
863906636@qq.com

Huijun Sun
sunhuijun@dmu.edu.cn

Citation

Liao, R., He, M., Hu, D., Gong, C., Du, H., Lin, H., Sun, H. Generation and Characterization of Right Ventricular Myocardial Infarction Induced by Permanent Ligation of the Right Coronary Artery in Mice. *J. Vis. Exp.* (180), e63508, doi:10.3791/63508 (2022).

Date Published

February 1, 2022

DOI

10.3791/63508

URL

jove.com/video/63508

Materials

Name	Company	Catalog Number	Comments
2,3,5-triphenyltetrazolium chloride	Sigma	T8877	For TTC staining
Animal Mini Ventilator	Havard	Type 845	For artificial ventilation
Animal ultrasound system VEVO2100	Visual Sonic	VEVO2100	Measurement for Doppler flow velocity and AS plaque
Batson's #17 Anatomical Corrosion Kit	Polyscience Inc	7349	For vasculature casting
buprenorphine	Isoreag	1134630-70-8	For reduce the pain of mice after surgery
C57BL/6J mice + D29A1A2:D27	Animal Center of South Medical University	-	For the generation of mouse RVI model
Camera	Sangnond		For taking photograph
Cold light illuminator	Olympus	ILD-2	Light for operation
electrocardiograph	ADI Instrument	ADAS1000	For recording electrocardiogram
hair removal cream	Reckitt Benchiser	RQ/B 33 Type 2	Remove mouse hair
Heat pad- thermostatic surgical system (ALC-HTP-S1)	SHANGHAI ALCOTT BIOTECH CO	ALC-HTP-S1	Heating
Hematoxylin-eosin dye	Leagene	DH0003	Hematoxylin-eosin staining
Heparin sodium salt	Macklin	H837056	For heparization
Isoflurane	RWD life science	R510-22	Inhalant anaesthesia
Lab made spatula			Work as a laryngoscope
Lab made tracheal cannula			For intubation
Matrx VIP 3000 Isoflurane Vaporizer	Midmark Corporation	VIP 3000	Anesthetization
Medical nylon suture (5-0)	Ningbo Medical Needle Co.	5-0	For chest close
Microsurgical elbow tweezers	RWD life science	F11021-11	For surgery
Microsurgical scissors	NAPOX	MB-54-1	For arteriotomy
Millar Catheter	AD Instruments, Shanghai	1.0F	Measurement of pressure gradient

MS400D ultrasonic probe	Visual Sonic	MS400D	Measurement for Doppler flow velocity and AS plaque
needle forceps	Visual Sonic	F31006-12	For surgery
nitroglycerin	BEIJING YIMIN MEDICINE Co		For dilating coronary artery
Ophthalmic scissors	RWD life science	S11022-14	For surgery
Pentobarbital sodium salt	Merck	25MG	Anesthetization
PowerLab Multi-Directional Physiological Recording System	AD Instruments, Shanghai	4/35	Pressure recording
Precision electronic balance	Denver Instrument	TB-114	Weighing scale
Silk suture (8-0)	Ningbo Medical Needle Co.	6-0	coronary artery ligation
Small animal microsurgery equipment	Napox	MA-65	Surgical instruments
tissue forceps	Visual Sonic	F-12007-10	For surgery
tissue scissor	Visual Sonic	S13052-12	Open chest for hemodynamic measurement
Transmission Gel	Guang Gong pai	250ML	preparation for Echocardiography measurement
Vascular Clamps	Visual Sonic	R31005-06	For blocking blood from aorta