

Materials List for

Rat Model of Normothermic Ex-Situ Perfused Heterotopic Heart Transplantation

Mukhammad Kayumov*^{1,2,3}, In Seok Jeong*^{2,3}, Dowan Kim^{2,3}, Yujin Kwak², Francis O. Obiweluozor^{2,3}, Namsik Yoon⁴, Hyo Sin Kim⁵, Hwa Jin Cho^{3,6}

¹Department of Medical Science, Chonnam National University Graduate School ²Department of Thoracic and Cardiovascular Surgery, Chonnam National University Hospital and Medical School ³Cardiovascular and Respiratory Research Team, Chonnam National University Hospital ⁴Department of Internal Medicine, Chonnam National University Hospital and Medical School ⁵Departments of Surgery, Chonnam National University Hospital and Medical School ⁶Department of Pediatrics, Chonnam National University Children's Hospital, and Medical School

^{*}These authors contributed equally

Corresponding Authors		Citation	
Hyo Sin Kim chhj98@gmail.com	Hwa Jin Cho gideon0504@gmail.com	Kayumov, M., Jeong, I.S., Kim, D., Kwak, Y., Obiweluozor, F.O., Yoon, N., Kim, H.S., Cho, H.J. Rat Model of Normothermic Ex-Situ Perfused Heterotopic Heart Transplantation. <i>J. Vis. Exp.</i> (194), e64954, doi:10.3791/64954 (2023).	
Date Published		DOI	URL
April 21, 2023		10.3791/64954	jove.com/video/64954

Materials

Name	Company	Catalog Number	Comments
AES active evacuation system	Smiths medical	PC-6769-51A	Utilize CO2 and excess isoflurane
Anesthesia machine	Smiths medical	PC-8801-01A	Mixes isoflurane and oxyegn and delivers to animal
B20 patient monitor	GE medical systems	B20	to observe mean aortic pressure and temperature
Homeothermic Monitoring System	Harvard apparatus	55-7020	To monitor and maintain animal's temperature
Micro-1 Rat oxygenator	Dongguan Kewei medical instruments	Micro-MO	For gas exchange in the langendorff circuit
Micropuncture introducer Set	COOK medical	G48007	for delivering cardioplegic solution to the arch through the abdominal aorta
Microscope	Amscope	MU1403	For zooming surgical field (Recipient)
Surgical loupe	SurgiTel	L2S09	For zooming surgical field (Donor)
Syringe pump	AMP all	SP-8800	To deliver cardioplegic solution
Transonic flow sensor	Transonic	ME3PXL-M5	Perfusion circuit flow sensor
Transonic tubing flow module	Transonic	TS410	flow acquiring system
Watson - Marlow pumps	Harvard apparatus	010.6131.DAO	Peristaltic pump used for recirculate perfusate
WBC-1510A	JEIO TECH	E03056D	Heating bath
Sprague-Dawley rats	Samtako Bio Korea Co., Ltd., Osan City Korea		
Medications			
BioHAnce Gel Eye Drops	SENTRIX Animal care		wet ointments for eye
Cefazolin	JW pharmaceutical		For prophilaxis
Custodiol	DR, FRANZ KOHLER CHEMIE GMBH		For heart harvesting



Diclofenac	Myungmoon Pharm. Co. Ltd	For pain control
Heparin	JW pharmaceutical	Anticoagulant
Insulin	JW pharmaceutical	hormon therapy
Saline	JW pharmaceutical	For hydration therapy