

**Supplementary Table 1. Infarct Locations**

<b>Animal #</b>	<b>Infarct location</b>
<b>Control</b>	
P14	Anterior wall + half septum
P15	Mostly septum
P18	Anterior wall, posterior wall + septum
P20	Anterior wall, posterior wall + septum
<b>hESC-CM</b>	
P22	Anterior wall + half septum
P23	Anterior wall + half septum
P24	Anterior wall, posterior wall + septum
P25	Anterior wall + half septum
P39	Anterior wall + half septum

**Supplementary Table 2. Antibodies used for Immunostaining**

Antigen	Antibody type	Company	Catalog #	Lot #	Dilution
<b>cTnI</b>	Rabbit monoclonal	Abcam	Ab52862	GR116627-7 and GR116627-10	1:200
<b>ssTnI</b>	Mouse monoclonal	Novus	NBP2-46170	F001	1:200
<b>cTnT</b>	Mouse monoclonal	Invitrogen	MA5-12960	SH2439467A	1:100
<b>Collagen 1</b>	Goat polyclonal	Abcam	Ab24821	GR3175980-1	1:200
<b>MLC2a</b>	Mouse monoclonal	Becton-Dickinson	565496	5082617	1:500
<b>MLC2v</b>	Rabbit polyclonal	Proteintech	10906-1-AP	39557	1:100
<b>Cav 3</b>	Rabbit polyclonal	Abcam	Ab2912	GR2939265	1:200
<b>Pan-cadherin</b>	Rabbit polyclonal	Sigma	C3678	030M4772	1:100
<b>Connexin 43</b>	Rabbit polyclonal	Sigma	C6219	045M4882V	1:200
<b>Desmin</b>	Goat polyclonal	Santa Cruz	Sc-7559	G1014	1:50
<b>CD31</b>	Mouse monoclonal	Abcam	Ab9498	GR3192748-2	1:20
<b>PCM-1</b>	Rabbit polyclonal	Sigma	HPA023370	GR304183-6	1:100
<b>Ki67</b>	Mouse monoclonal	BD Bioscience	BDB558615	7242989	1:20

**Supplementary Table 3. Arrhythmia Inducibility Scoring (JAMA. 1990;264:2236-2240)**

Score	Type of stimulation
0	No inducible ventricular tachyarrhythmia
1	Under isoprotenerol infusion, 3 extrastimuli required to induce an arrhythmia.
2	Under isoprotenerol infusion, 2 extrastimuli required to induce an arrhythmia.
3	Under isoprotenerol infusion, 1 extrastimuli required to induce an arrhythmia.
4	Without isoprotenerol infusion, 3 extrastimuli required to induce an arrhythmia.
5	Without isoprotenerol infusion, 2 extrastimuli required to induce an arrhythmia.
6	Without isoprotenerol infusion, 1 extrastimuli required to induce an arrhythmia.
7	Tachyarrhythmias induced during the entrainment period

**Supplementary Table 4. Arrhythmia Severity Scoring (JAMA. 1990;264:2236-2240)**

Score	Arrhythmia induced
0	No induced arrhythmia
1	1~3 repetitive ventricular response (RVR)
2	4 beats to less than 30 seconds of nonsustained ventricular arrhythmias
3	Sustained AIVR at rate 120 to 180
4	Sustained VT at rate 181 to 300
5	Sustained VT at rate > 300

