

Supplemental Information - Bayes-Genis et al.

Supplementary Movie. Electro-Mechanical device stimulating ATDPCs.

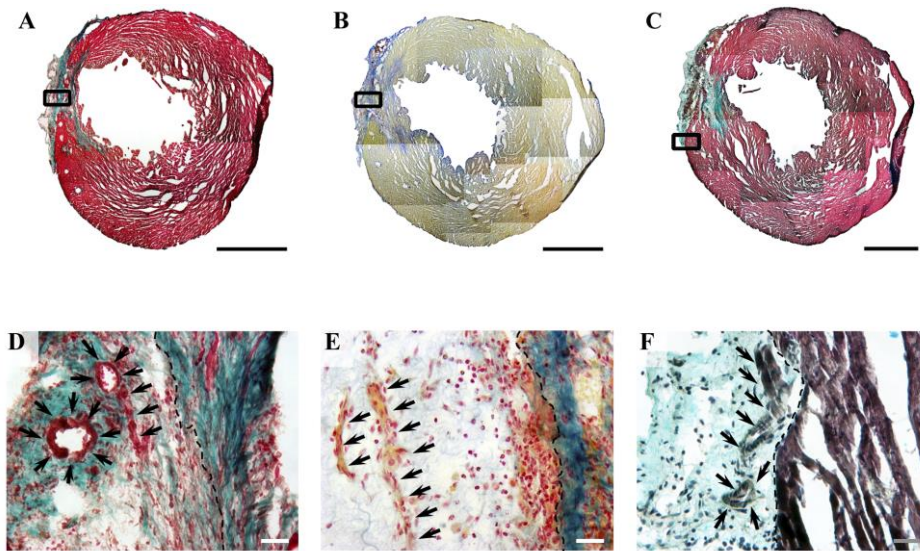


Fig. S1. Histological stainings of MI+EMC heart cross-sections. Light green Masson's trichromic (A, D), Gallego's modified trichromic (B, E), and Movat's pentachromic (C, F) stainings of whole heart cross-sections (upper panels) and magnified fibrin-myocardium interphase showing the vascular structures inside (lower panels). Arrowheads indicate vessels within the fibrin construct. Scale bars = 1 mm (A-C) and 20 μm (D-F).

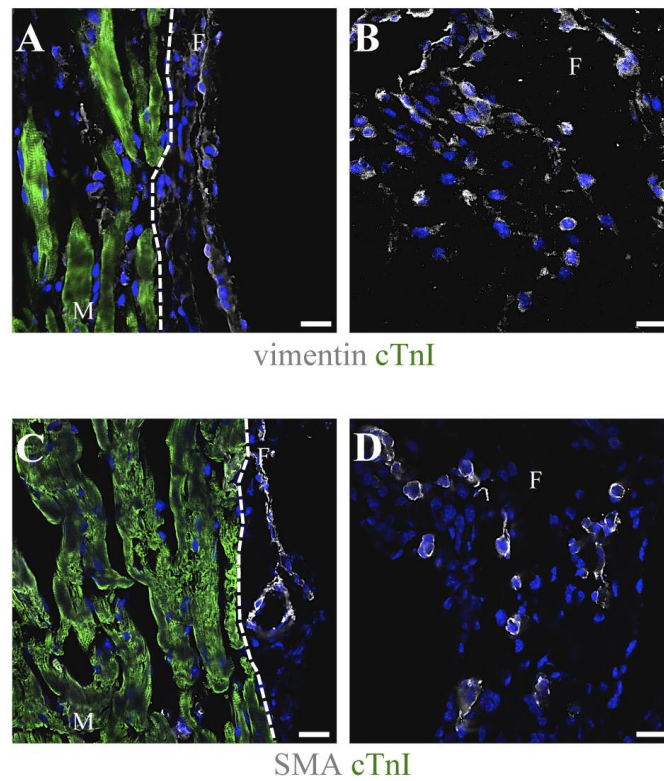


Fig. S2. Immunohistochemistry to assess cell migration from the myocardium to the fibrin patch. Immunofluorescent staining of heart cross-sections in MI+Fibrin animals for cTnI (green), vimentin (grey, upper panels), and SMA (grey, lower panels) in the myocardium-fibrin interphase (**A, C**) and inside the fibrin patch (**B, D**). Nuclei were counterstained with DAPI (blue). Fibrin = F, Myocardium = M. Scale bars = 20 μm .

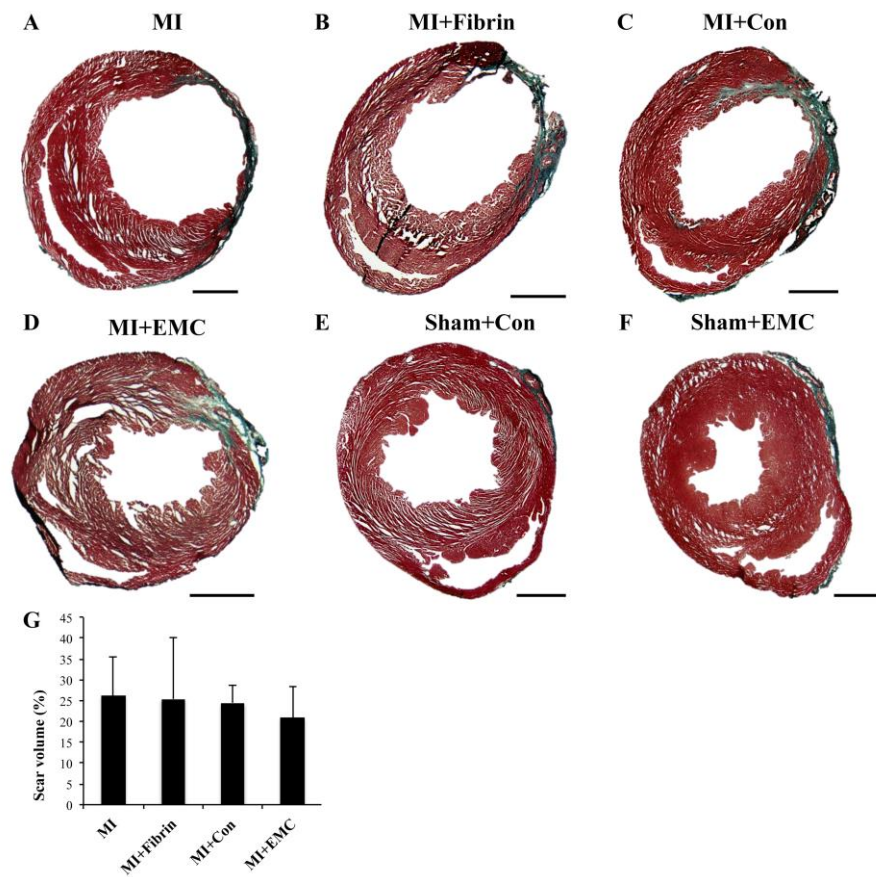


Fig. S3. Morphometric analysis. Representative Masson's trichrome staining of heart cross-section from each animal group: MI (A), MI+Fibrin (B), MI+Con (C), MI+EMC (D), Sham+Con (E), and Sham+EMC (F). Scale bars = 1 mm. (G) Scar volume percentages for all infarcted groups. Values are mean \pm SEM.

Table S1. Cardiac function parameters.

	Sham+Con			Sham+EMC			MI			MI+Fibrin			MI+Con			MI+EMC		
	Baseline	Pre-Sacrifice	<i>P</i> value	Baseline	Pre-Sacrifice	<i>P</i> value	Baseline	Pre-Sacrifice	<i>P</i> value	Baseline	Pre-Sacrifice	<i>P</i> value	Baseline	Pre-Sacrifice	<i>P</i> value	Baseline	Pre-Sacrifice	<i>P</i> value
LVAWd (mm)	0.9±0.2	0.9±0.1	0.64	0.8±0.1	0.8±0.1	0.68	0.8±0.1	0.8±0.1	0.18	0.9±0.1	0.8±0.1	0.31	0.9±0.	0.8±0.1	0.55	0.7±0.2	0.8±0.1	0.28
LVAWs (mm)	1.0±0.2	1.2±0.2	0.36	1.0±0.1	1.2±0.2	0.46	1.1±0.2	1.1±0.2	0.70	1.2±0.2	1.1±0.2	0.31	1.1±0.2	1.1±0.1	0.52	1.0±0.2	1.1±0.1	0.20
LVPWd (mm)	0.8±0.1	0.8±0.1	0.41	1.0±0.1	1.0±0.1	0.69	0.8±0.1	1.0±0.2	0.09	0.7±0.2	0.9±0.1	0.18	0.7±0.1	0.8±0.3	0.45	0.7±0.1	0.8±0.1	0.10
LVPWs (mm)	1.2±0.2	1.0±0.2	0.06	1.3±0.2	1.3±0.2	0.96	1.1±0.2	1.1±0.2	0.58	1.1±0.2	1.0±0.1	0.77	1.0±0.1	1.1±0.3	0.59	0.9±0.1	1.1±0.1	0.02*

Values are shown as mean ± SEM. LVAWd: left ventricle anterior wall thickness diastole; LVAWs: left ventricle anterior wall thickness systole; LVPWd: left ventricle posterior wall thickness diastole; LVPWs: left ventricle posterior wall thickness systole.

Table S1. Cardiac function parameters. Values are shown as mean \pm SEM. * $P < 0.05$. LVAWTd, left ventricle anterior wall thickness diastole; LVAWTs left ventricle anterior wall thickness systole; LVPWTd, left ventricle posterior wall thickness diastole; LVPWTs, left ventricle posterior wall thickness systole.

Table S2. Left ventricle ejection fraction calculated as differentials between values at 21 days post-operation and baseline.

	Δ LVEF (%)	<i>P</i> values
MI	-15±8	
MI+Fibrin	-11±8	0.56
MI+Con	-3±8	0.23
MI+EMC	0±7	0.03*

Values are shown as the differentials in percentage \pm SEM. LVEF: left ventricle ejection fraction. * $P < 0.05$; *P* values are referred to MI group.

Table S2. Left ventricle ejection fraction calculated as differentials between values at pre-sacrifice (21 days post-operation) and baseline. Values are shown as the differentials in percentage \pm SEM.

LVEF, left ventricle ejection fraction. * $P < 0.05$; P values are referred to MI group.