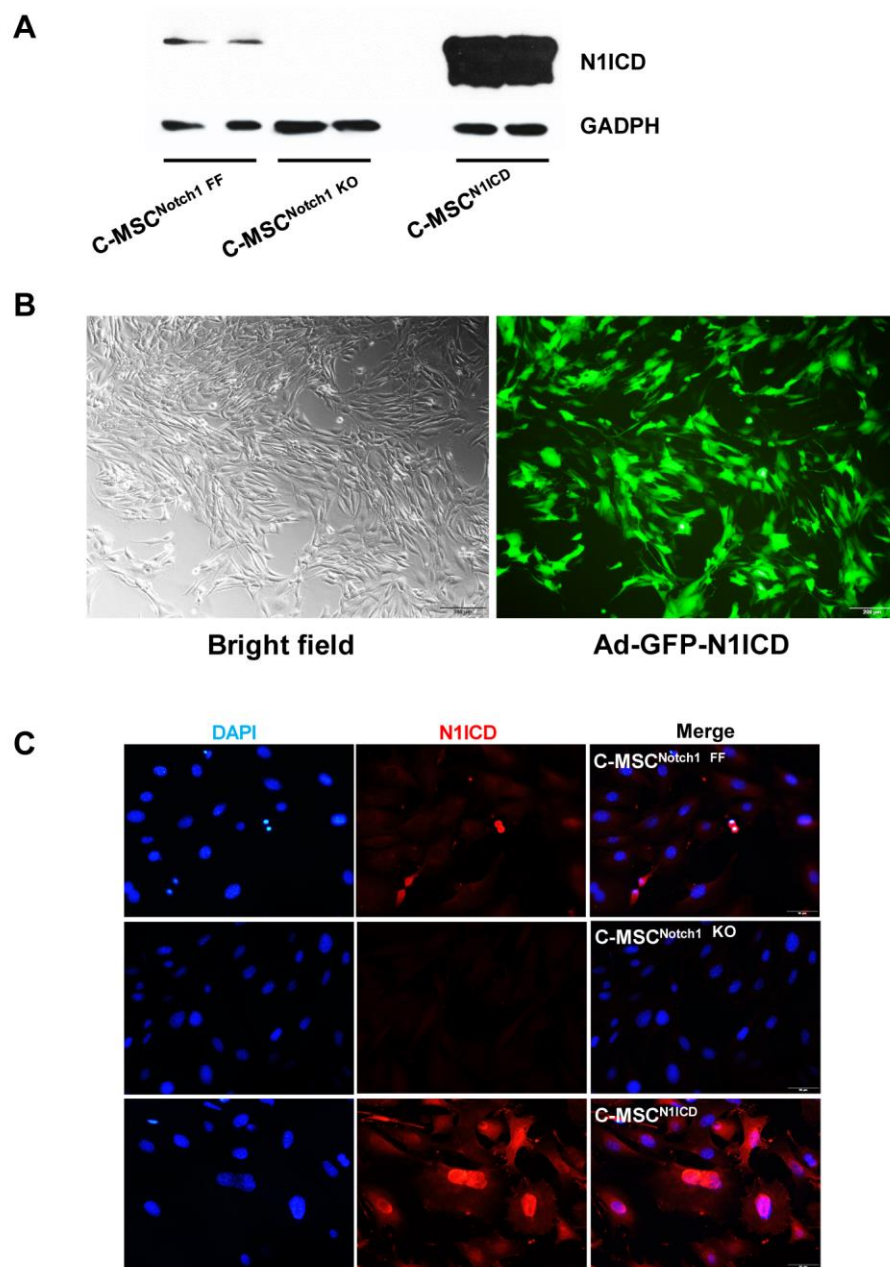
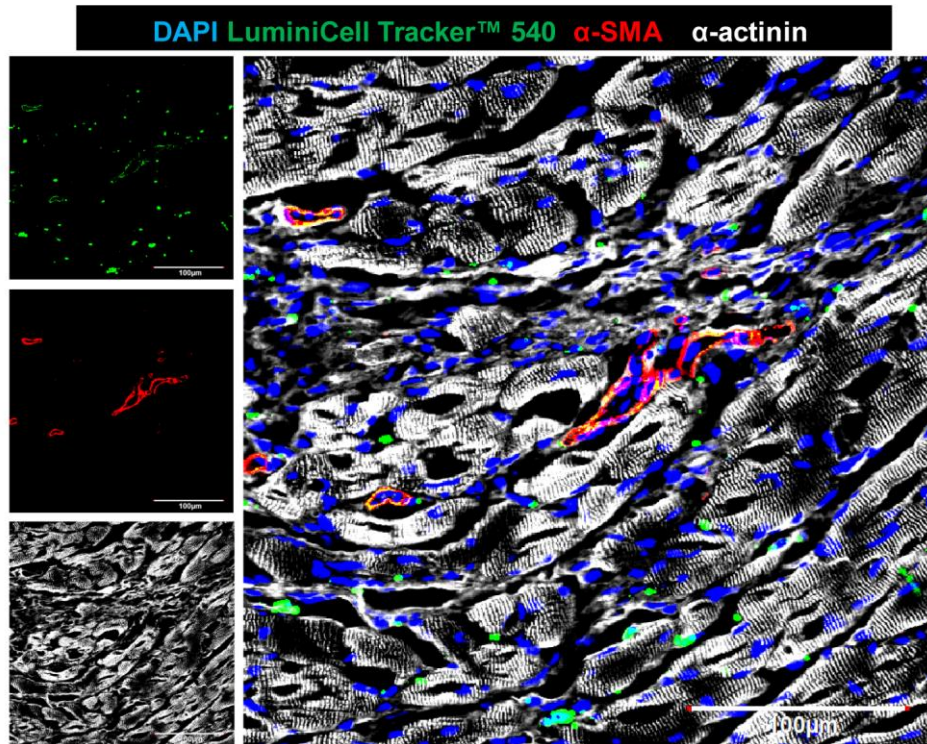


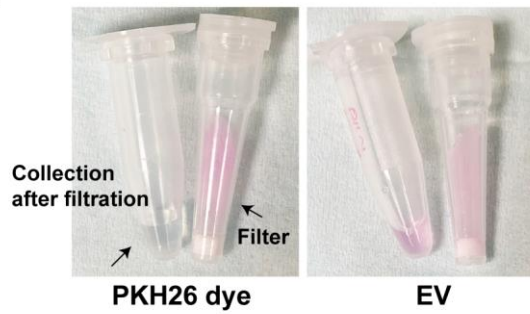
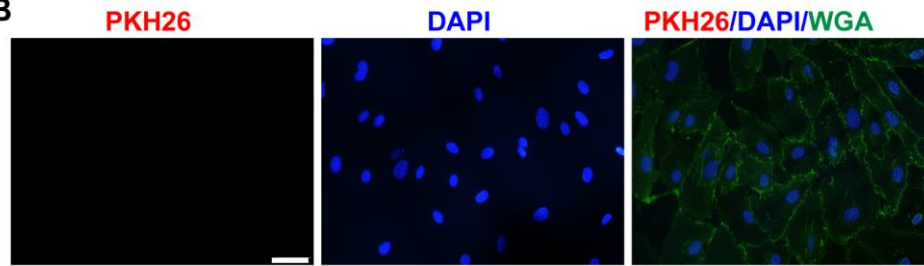
Supplementary Material



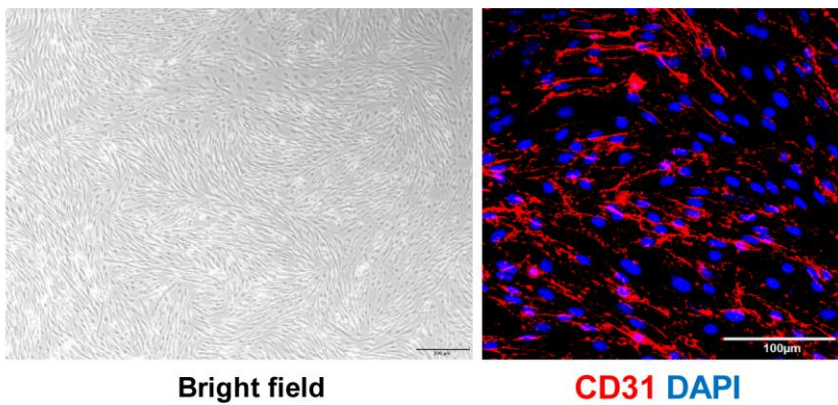
Supplemental Fig.S1 Overexpression of Notch1 intracellular domain (N1ICD) in Cardiac Mesenchymal stem cells (C-MSC). (A) Representative western blot images of N1ICD expression in C-MSC from Notch1flox mice, Notch1 knock out C-MSC and N1ICD overexpressing C-MSC. (B) Ad-green fluorescence protein (GFP)-N1ICD was infected into C-MSC. Transfection efficiency was monitored by fluorescence microscopy. Bar = 200 μ m. (C) Representative immunofluorescence images of N1ICD expression in C-MSC from Notch1 flox mice, Notch1 knock out C-MSC and N1ICD overexpressing C-MSC. Bar = 50 μ m.



Supplemental Fig.S2 N1ICD overexpressing C-MSC differentiated into smooth muscle cells after in vivo transplantation in infarcted mouse heart. Cells were labeled with LuminiCell Tracker™ 540. Co-localization cell tracker and α -SMA staining was observed indicating cells were differentiated into smooth muscle cells and formed vessels. Bar = 100 μ m.

A**B**

Supplemental Fig.S3 Excess dye removal for EV labeling. (A) Appearance of Filtration fluid of PKH26 labeled EV or PKH26 dye. (B) No PKH26 dye signal was detected in endothelia cells incubated filtration fluid of PKH26 dye. Bar = 50 μm .



Supplemental Fig.S4 Characterization of mouse aortic endothelial cells. Representative bright field image of mouse aortic endothelial cells (Bar = 200 μm) and immunofluorescence image of CD31 expression in mouse aortic endothelial cells (Bar = 100 μm).