

Supplementary Figures

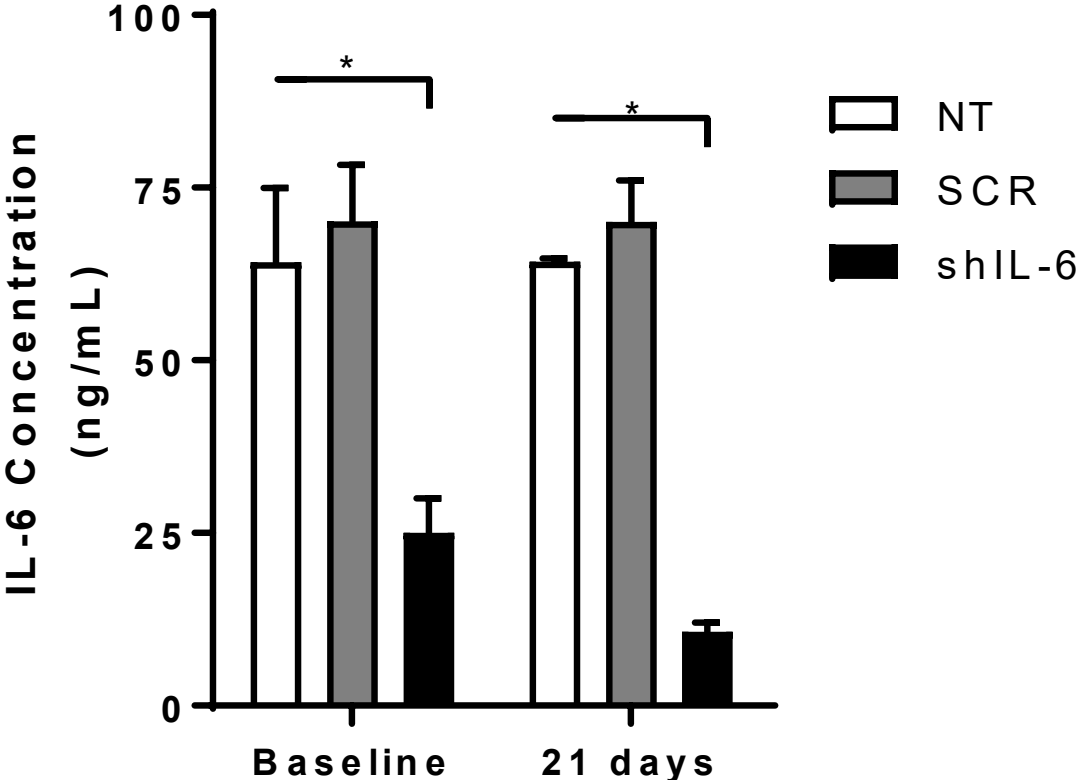
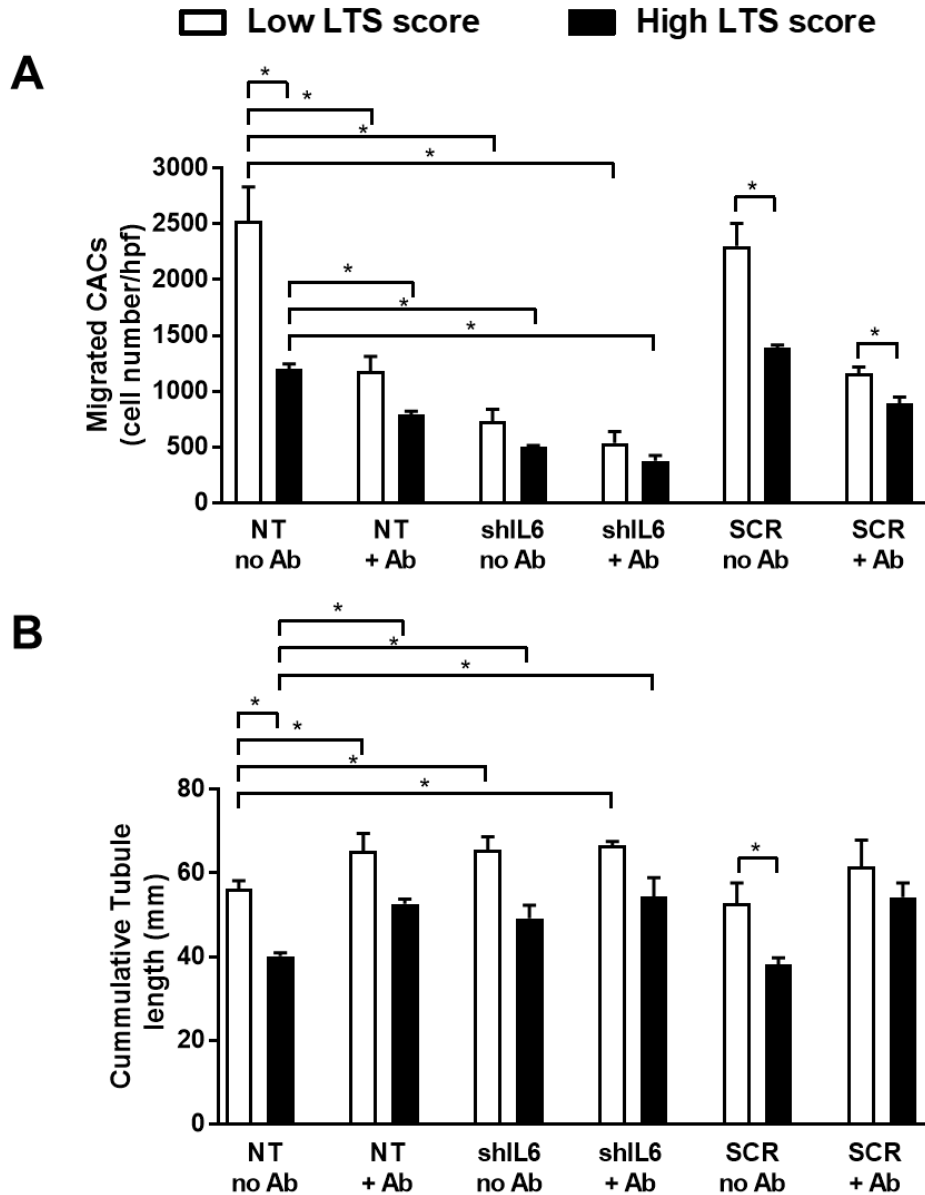
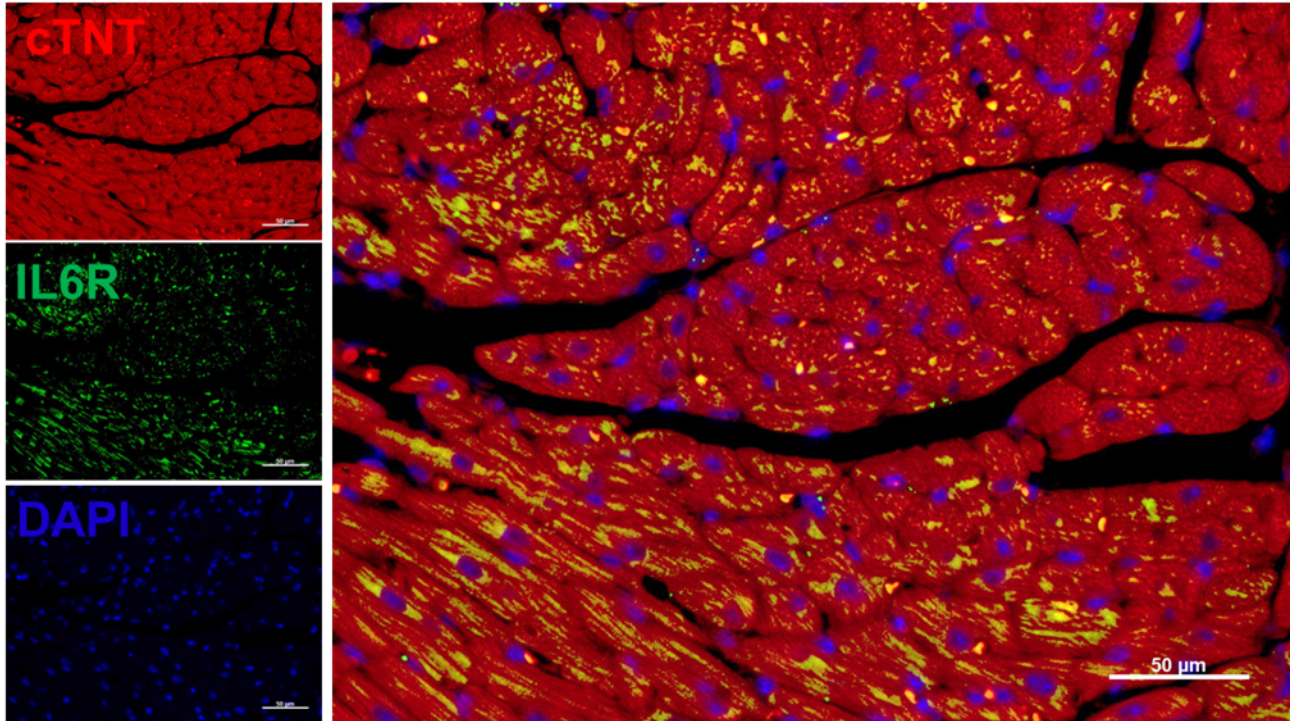


Figure S1. IL-6 knockdown persists for 3 weeks following lentiviral transduction. ELISA analysis of media conditioned at baseline (48 hours following transduction) and after 3 weeks of cell culture (n=5, \*p<0.05).

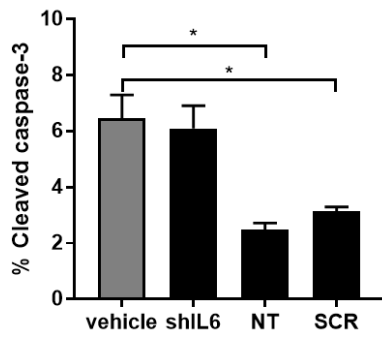
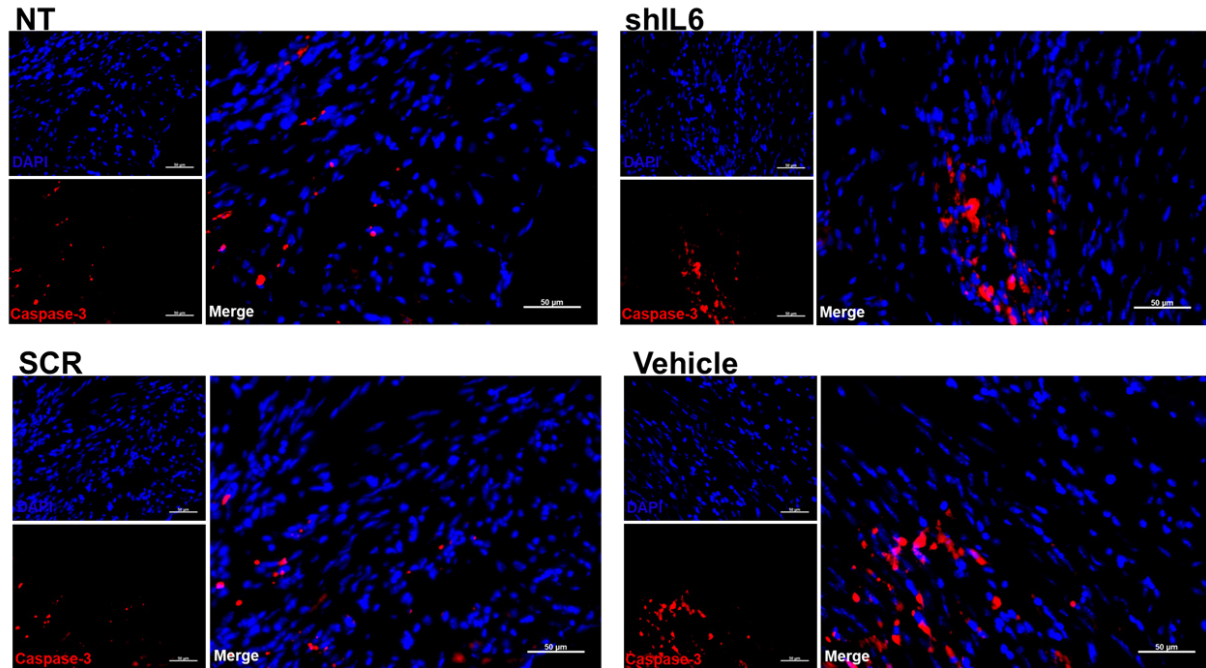


**Figure S2. IL-6 knockdown and neutralization promotes angiogenesis and reduces the recruitment of circulating cells in vitro.** (a) Analysis of the number of CACs that migrated through a transwell filter after exposure to conditioned media sourced from NT, SCR or shIL-6 EDCs with or without a neutralizing antibody (Ab) from low and high LTS score patients (n=3/group). \*p<0.05. (b) Cumulative tubular length analysis of human umbilical vein endothelial cells tubule formation within a cytokine depleted matrigel assay after exposure to conditioned media sourced from NT, SCR or shIL-6 EDCs with or without a neutralizing

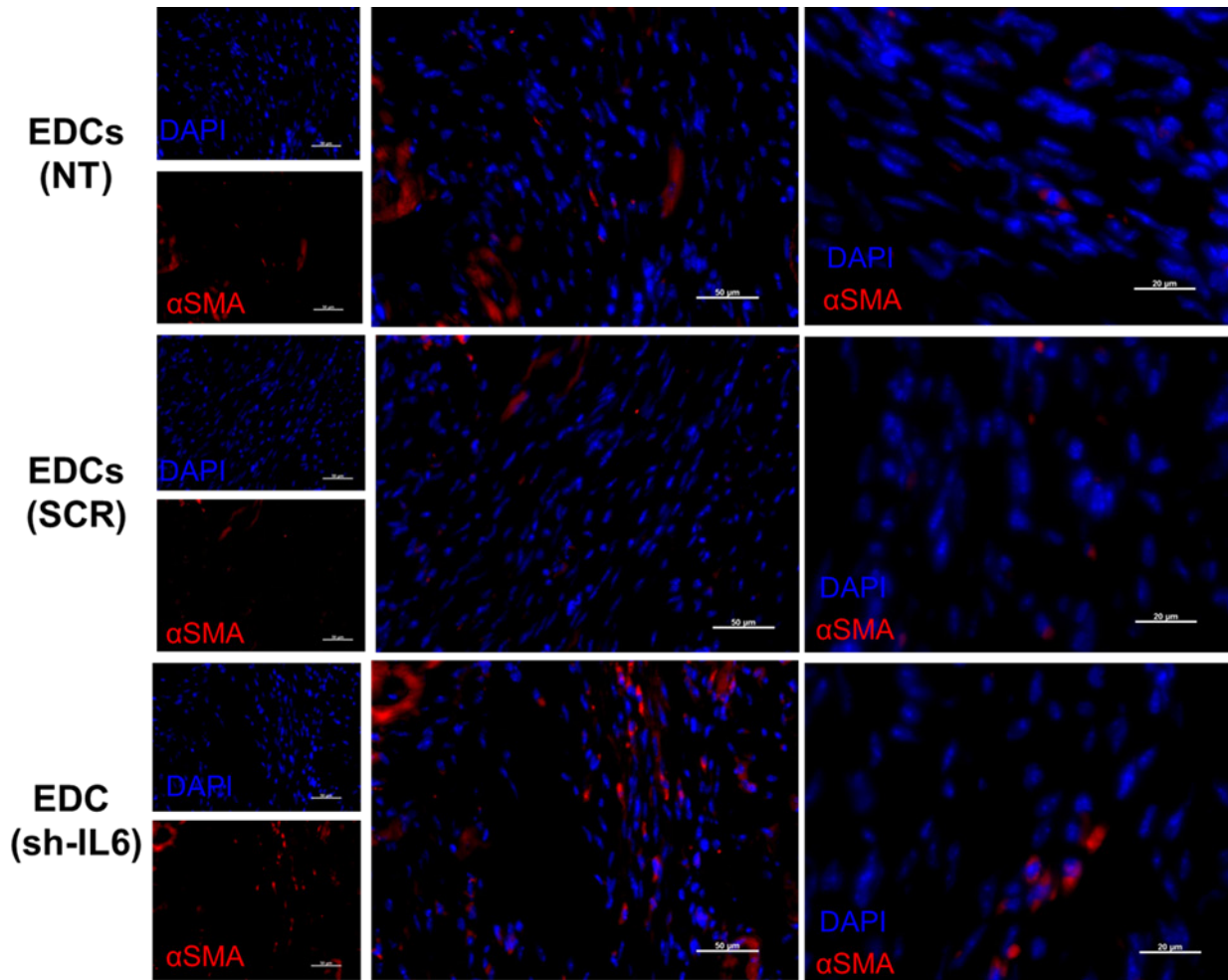
antibody (Ab) from low and high LTS score patients (n=3/group). \* $p \leq 0.05$  vs low LTS score EDCs.



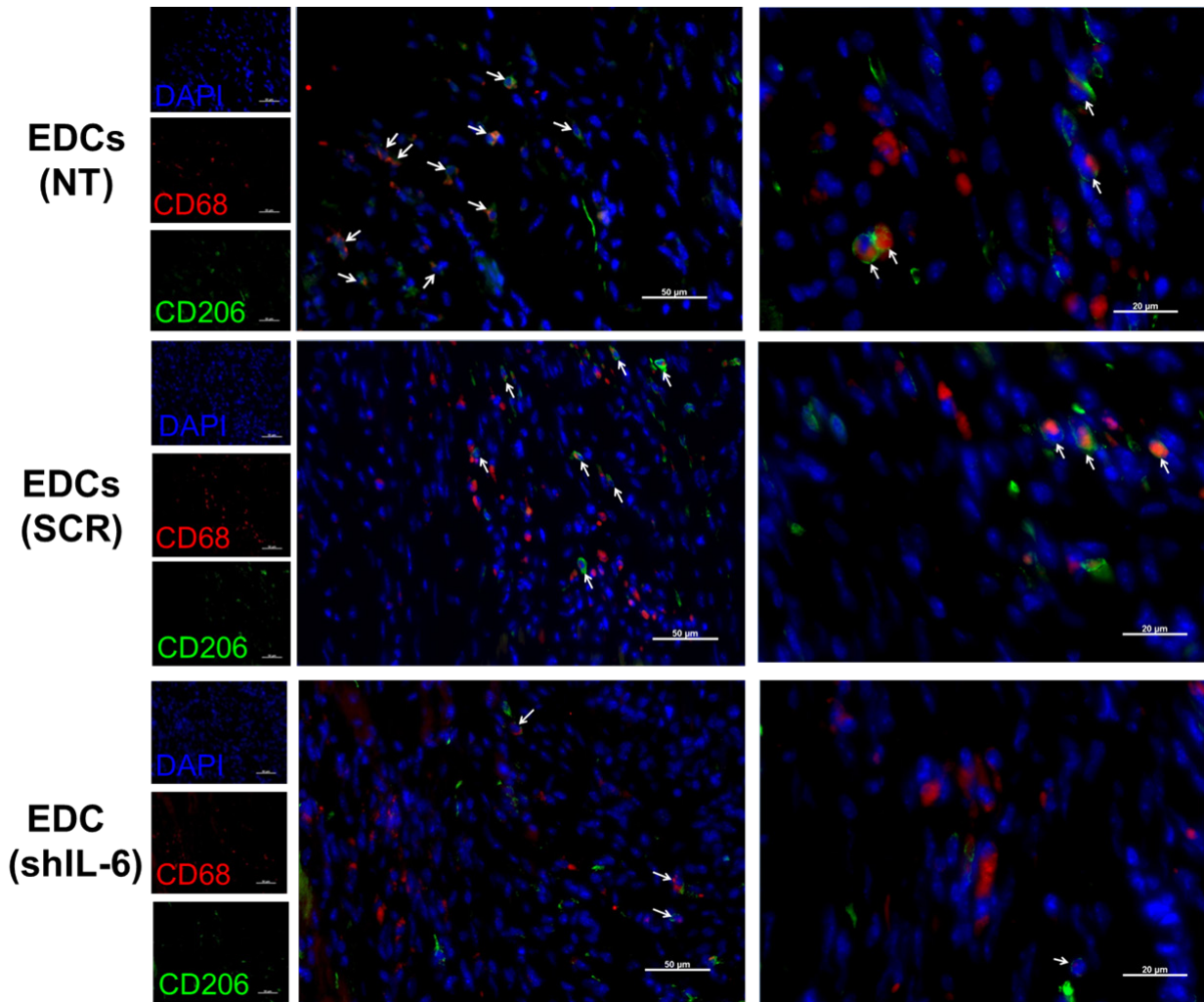
**Figure S3. IL-6R $\alpha$  is expressed on myocytes prior to LCA ligation.** Representative myocardial section from ventricle of a mouse demonstrating expression of IL6R $\alpha$  on cardiomyocytes.



**Figure S4. IL-6 reduces apoptosis.** Representative images at 40x (size bar = 50  $\mu$ m) of myocardial sections from the peri-infarct region of mice 21 days after myocardial infarction examining the presence of apoptotic cells (activated caspase 3) after transplant of NT, SCR or shIL-6 high LTS EDCs. Quantification demonstrates that IL-6 knock down increases the number of apoptotic cells in myocardial sections (n=4, \*p<0.05).



**Figure S5. Representative immunohistological images of myofibroblasts.** Representative images at 40x (middle, size bar = 50  $\mu\text{m}$ ) or 100x oil (right; size bar = 20  $\mu\text{m}$ ) of myocardial sections from the peri-infarct region of mice 21 days after myocardial infarction examining the presence of myofibroblasts (non-vascular  $\alpha\text{SMA}^+$  cells) after transplant of NT, SCR or shIL-6 high LTS EDCs.



**Figure S6. Representative immunohistological images of macrophages.** Representative images at 40x (middle; size bar = 50  $\mu\text{m}$ ) or 100x oil (right; size bar = 20  $\mu\text{m}$ ) of myocardial sections from the peri-infarct region of mice 21 days after myocardial infarction examining M2 (CD206) macrophage polarization after transplant of NT, SCR or shIL-6 high LTS EDCs (arrows, CD68+/CD206+/DAPI+).