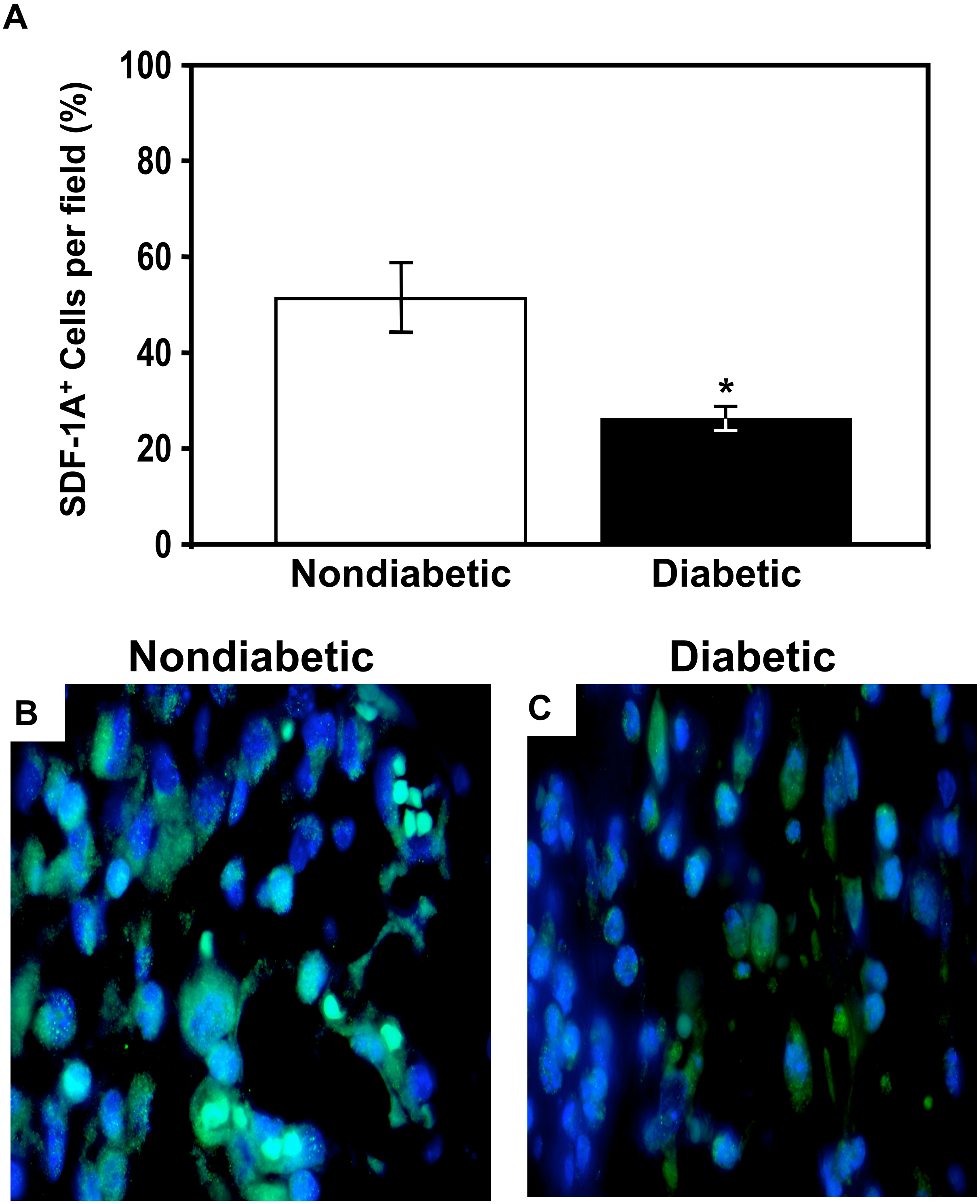
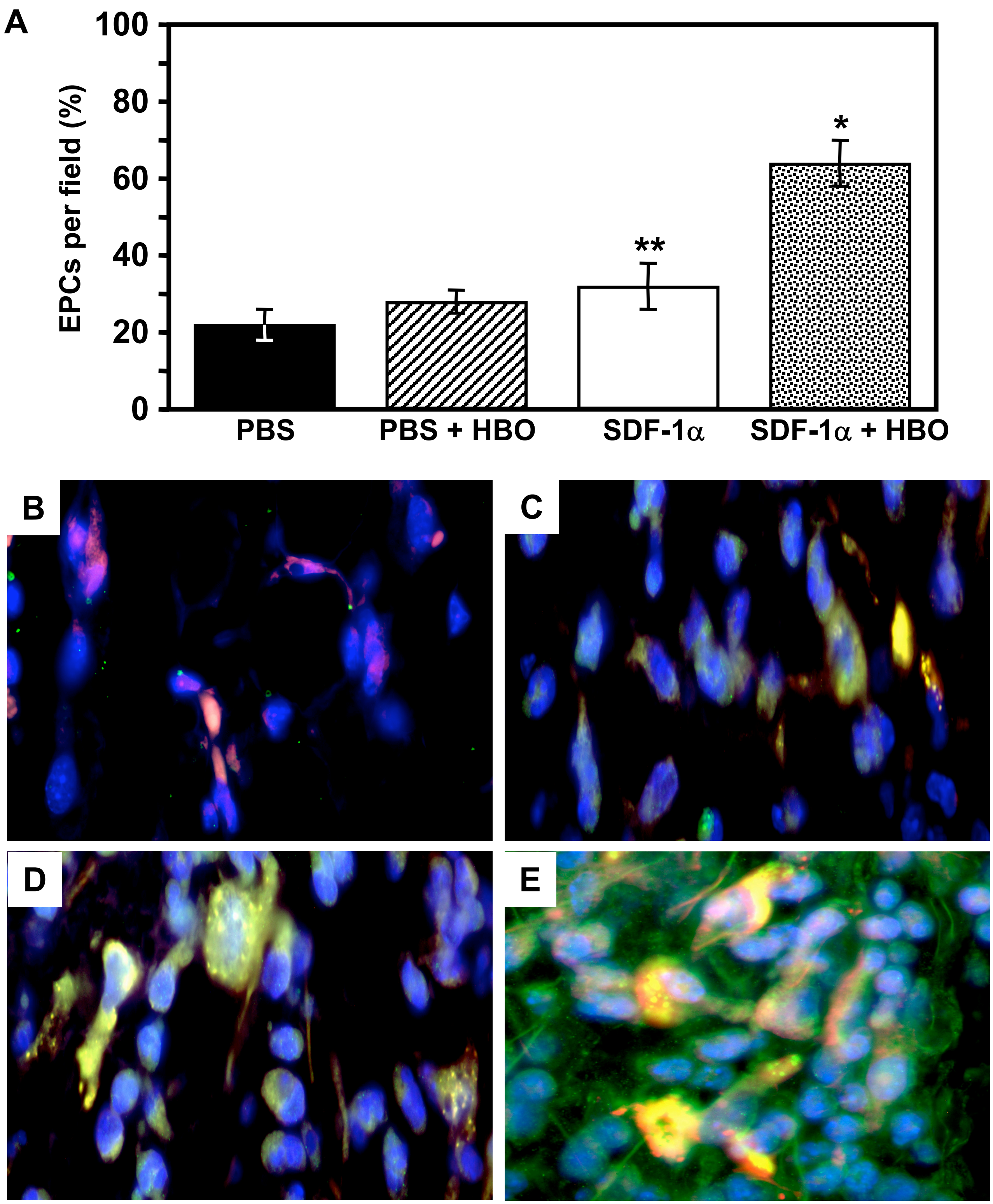
Supplemental Figure 1

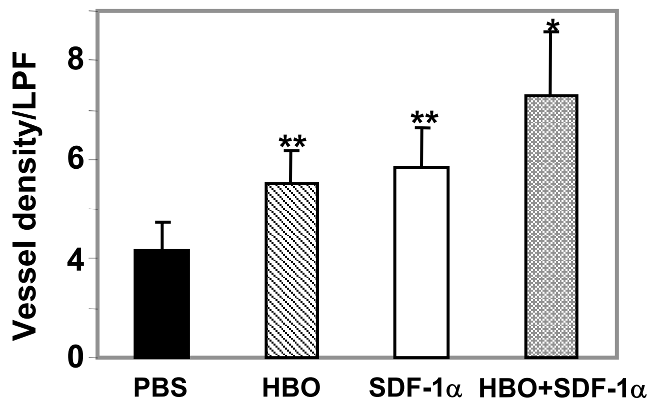


Supplemental Figure 2

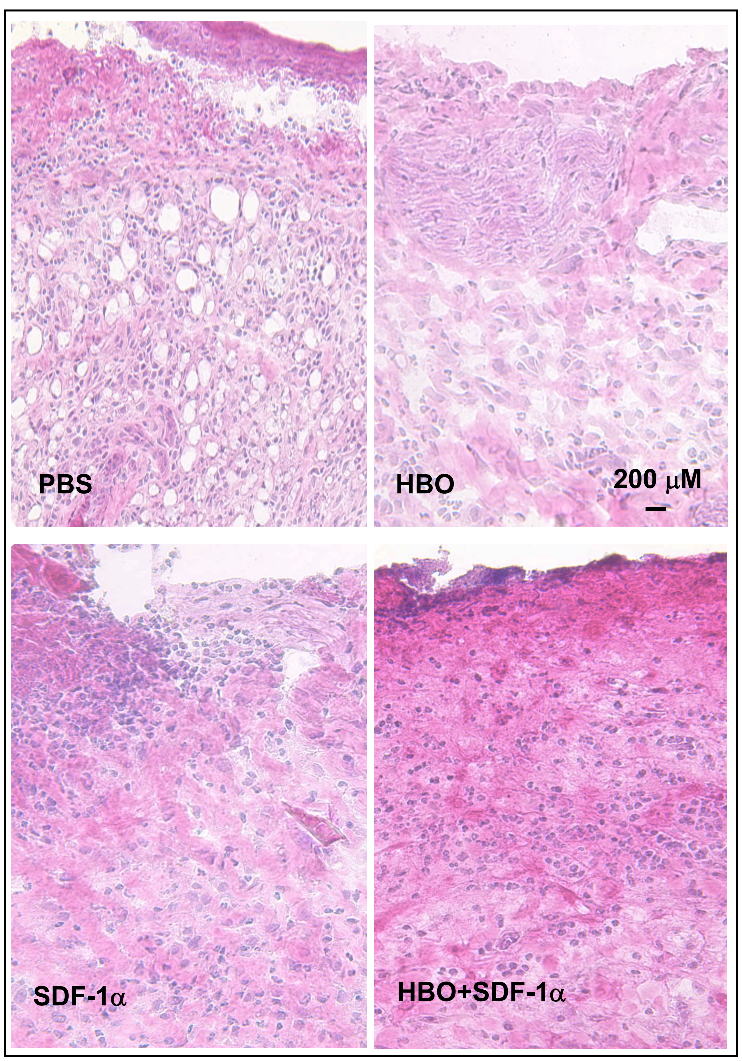


Supplemental Figure 3

A



B



Supplemental Figure 1.

Decreased numbers of SDF-1α$^+$ expressing cells in peripheral wounds of diabetic mice. (A) Wounds were examined for SDF-1α$^+$ expression in diabetic (n=5) and nondiabetic (n=5) mice by fluorescence immunostaining 24 h post-wounding and 10 d after STZ treatment. For each animal, the percentage of cells expressing SDF-1α was quantified relative to the total wound cellularity in 5 serial cross-sections per wound, counting 10 random high power fields (HPF) at 100X magnification. Wounds harvested from diabetic mice demonstrated significantly fewer cells expressing SDF-1α as compared to nondiabetic controls. *P<.005. (B-C) Representative SDF-1α$^+$ staining of wound sections of nondiabetic (B) and diabetic (C) animals are shown. Sections (5µm thick) were stained for cells with anti-SDF-1α antibody and Alexa 488-conjugated secondary antibody (green). Nuclei were counterstained with Hoescht dye (blue).

Supplemental Figure 2.

Impaired EPC homing to wound tissue in diabetes is reversed by cutaneous administration of SDF-1α. 4 groups (n=5 per group) of wounded diabetic mice were treated with daily wound injections of either SDF-1α or PBS ± daily HBO. After 3 days of treatment, wounds were harvested and analyzed by fluorescent immunostaining of tissue sections (5 µm thick) with anti-CXCR4 antibody with Alexa 488-conjugated secondary antibody (green) and anti-VEGFR2 antibody with PE-conjugated secondary antibody (red). Nuclei were counterstained with Hoescht dye (blue). EPC were identified as cells double-labeled with CXCR4 and VEGFR2. (A) Quantitation of EPCs in PBS controls, PBS + HBO, SDF-1α, and SDF-1α + HBO treated diabetic mice are shown. For each animal, 10 random high-power fields (100X magnification) from 5 serial cross-sections were analyzed and the percentage of cells expressing both CXCR4 and VEGFR2 was quantified relative to the total wound cellularity. All data are expressed as mean ± SEM based on three experiments. SDF-1α + HBO treated mice had a significant rise in the percentage of endothelial progenitor cells compared to PBS controls, PBS + HBO, and SDF-1α treated animals (*$P<.05$). SDF-1α treated animals had a significant increase in tissue EPC when compared to PBS controls (**$P<.05$). HBO did not significantly change the percentage of EPC within wounds. (B-E) Representative wound sections of PBS controls (B), PBS + HBO (C), SDF-1α (D) and SDF-1α + HBO (E) are shown.

Supplemental Figure 3.

(A) Blood vessel density in healing wounds. Vessels were stained with anti-VEGFR2-FITC in wounded tissue sections. For each sample, 10 random low-power fields (LPF, X20) from 5 serial cross-sections were analyzed and the number of vessels was counted. (B) H&E staining show overall cellularity and stromagenesis in healing wounds at d 6. SDF1α+HBO treatment strongly enhances stromagenesis compared to other groups.