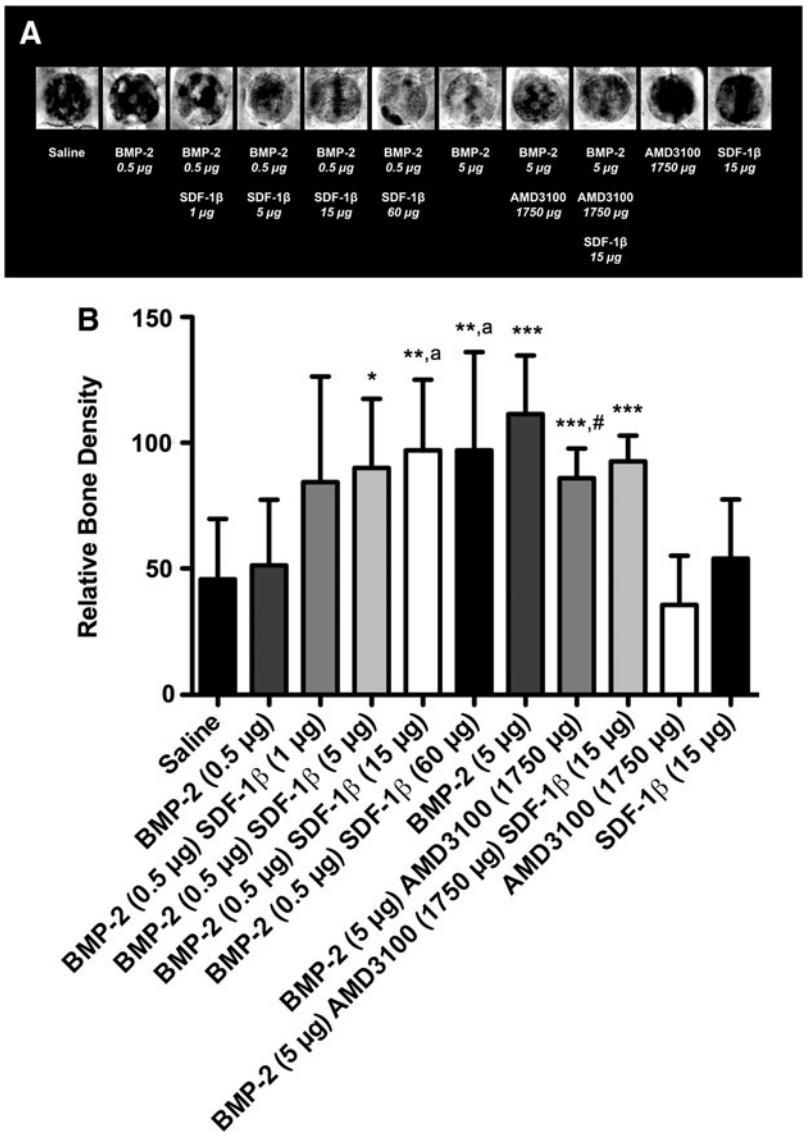
Supplementary Data



SUPPLEMENTARY FIG. S1. Stromal cell-derived factor-1 (SDF-1)β enhances suboptimal bone morphogenetic protein-2 (BMP-2)–induced bone formation and is required for optimal BMP-2 signaling following local codelivery. **(A)** Representative radiographic images of critical-size rat calvarial defects at 4 weeks. **(B)** Quantitative analysis of mineralized bone formation within the 8-mm defects showed comparable bone densities between suboptimal BMP-2 and saline control. Importantly, SDF-1β significantly potentiated suboptimal BMP-2-induced bone formation in a dose-dependent order (1–60 µg) [$*p<0.05$, $**p<0.01$, $***p<0.0001$ vs. saline control; $^{a}p<0.05$ vs. BMP-2 (0.5)], reaching comparable levels to the 10-times higher optimal BMP-2 dose. Codelivery of the specific CXC chemokine receptor 4 (CXCR4) antagonist AMD3100 with optimal BMP-2 attenuated the osteoinductive potential [$***p<0.0001$ vs. saline control; $^{\#}p<0.05$ vs. BMP-2 (5.0)]. Neither of the control groups showed signs of significant bone formation ($n=10$ animals/group).