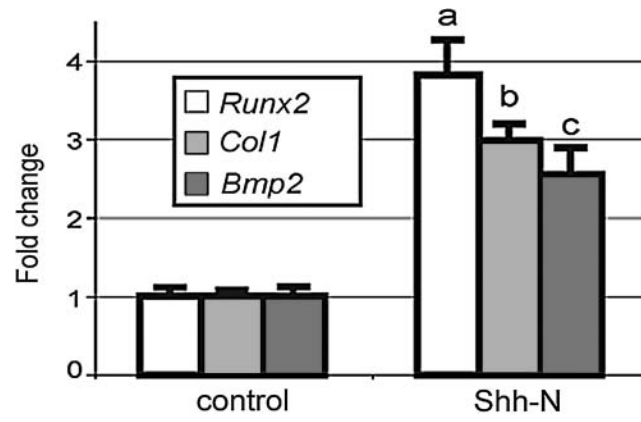**SUPPLEMENTAL FIG. S1.** Bipotent differentiation with N-terminal Sonic Hedgehog (Shh-N) or cyclopamine. (**A**) Staining for both oil red O and alkaline phosphatase at day 7 bipotent differentiation with Shh-N (500 ng/mL) or vehicle control. (**B**) Staining for oil red O and alkaline phosphatase with cyclopamine (10 μM) or vehicle control. Whole well images are presented above and random microscopic fields below.

SUPPLEMENTAL FIG. S2.   Gene expression after 24 h of treatment with Shh-N. Gene expression of *Runx2*, *Col1*, and *Bmp2* in mouse adipose-derived stromal cells after 24 h in culture with Shh-N (500 ng/mL) or vehicle control, by quantitative real-time polymerase chain reaction. After 24 h, mASCs were then grafted into our tibial defect model. Values are normalized to control groups, [a,b,c]$p < 0.01$.