**Supplementary Figure 1.** The expression of Sox9 in the LV-Sox9 (A) and control virus (B) infected MSCs. Scale bars, 10 μm.

**Supplementary Figure 2.** Statistical analysis for the expression of Col2al protein in the lentiviral-Sox9 infection and control groups (A), lentiviral-ERK5 and control groups (B), and the expression of Sox9 protein in the lentiviral-ERK5 and control groups (C).