**Supplementary Figures**

**Figure S1** **Histological evaluation of bone destruction in rats injected with Tumor cells.** Bone tissue samples were obtained on day 14 after TCI. Rats injected with Tumor cells showed significant cancer growth and progressive destruction of bone along with abnormal cell morphology such as blurring of trabecular bone edge, obvious bone destruction. HE staining, original magnification: 40× (left), 100× (right)



**Figure S2** Western blot analysis reveals that, Compared with Naïve group, the level of CXCR4 expression was upraised in Tumor cell implantation (TCI) group (*\*\*P* < 0.01, n=4); compared with the TCI + scrambled siRNA (Scr) group, the expression of CXCR4 was significantly decreased in the TCI + CXCR4-targeted siRNA group (*#P < 0.05*; n = 4).



**Figure S3** Compared with T (-1) (the day before Tumor cell implantation) group, the percentage of ALK5+CXCR4+-positive cells is significantly enhanced in T14 (the 14th day after Tumor cell implantation) group (*\*\*P* < 0.001, n=5).

