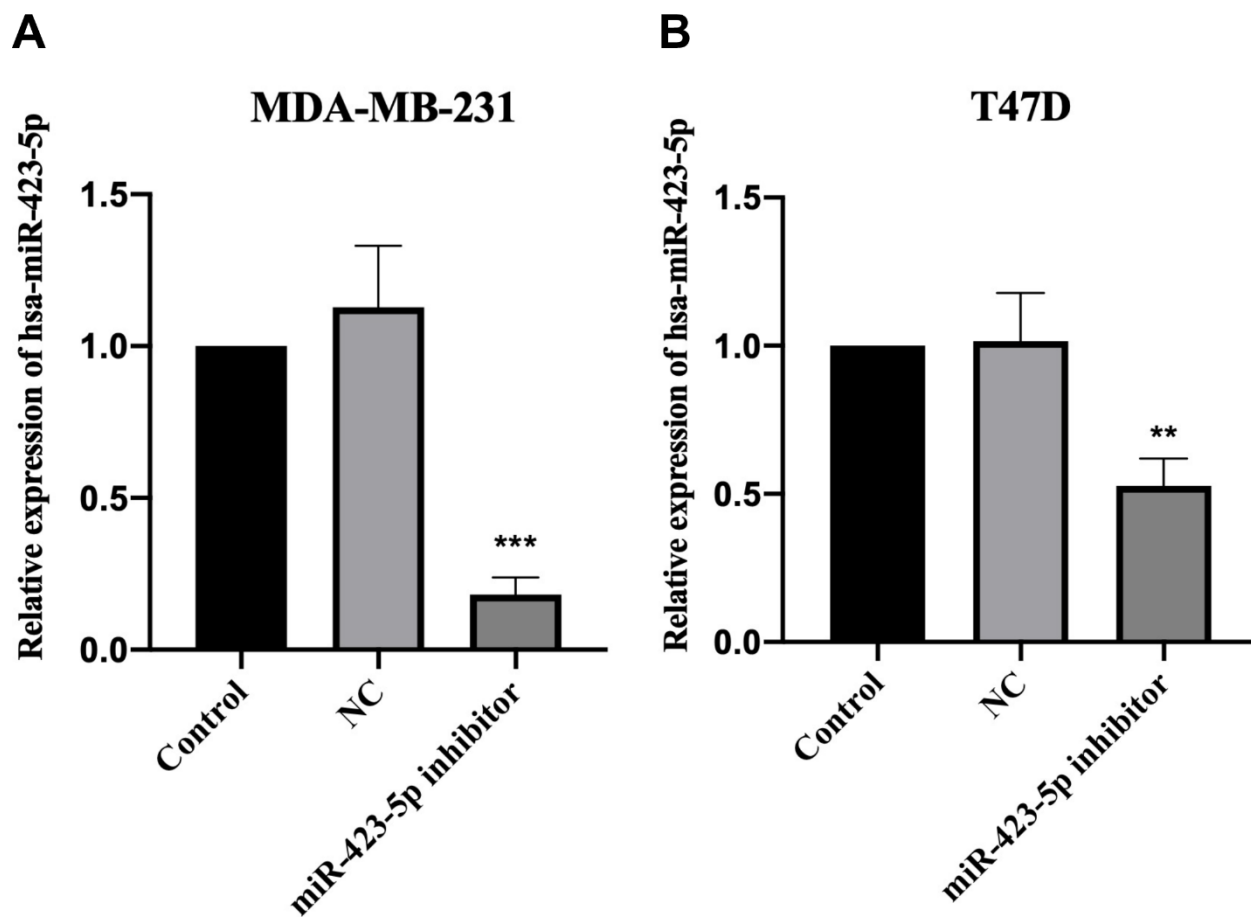
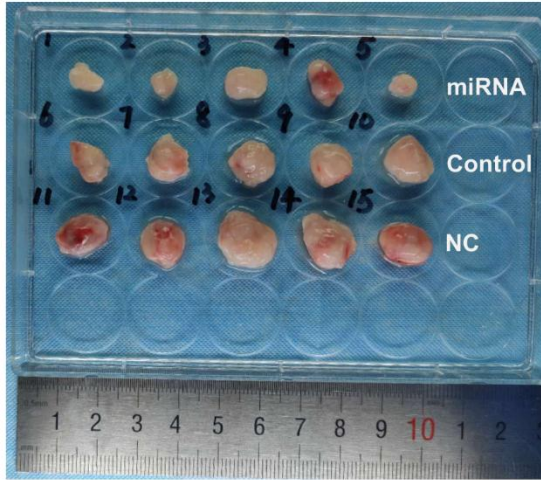
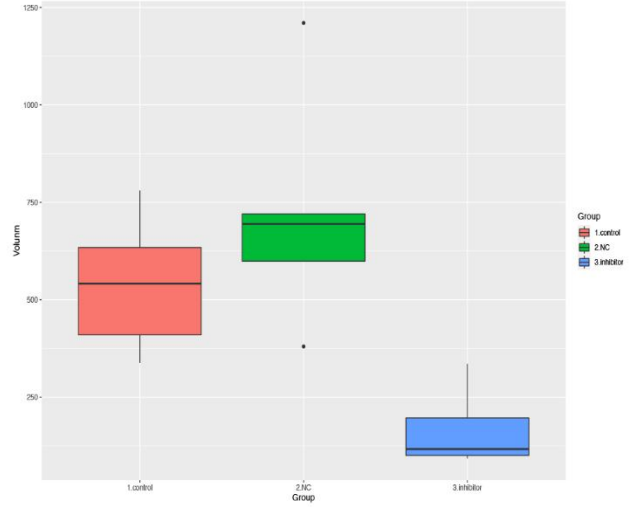
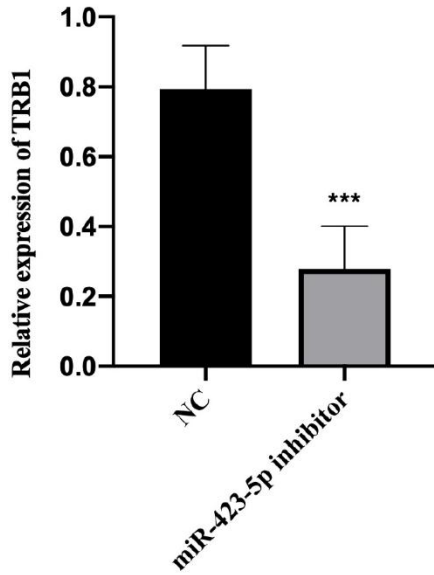
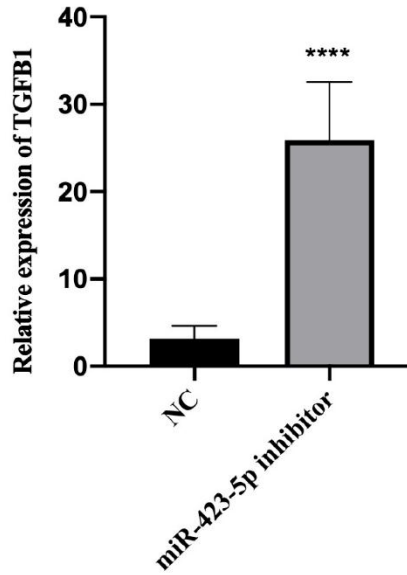
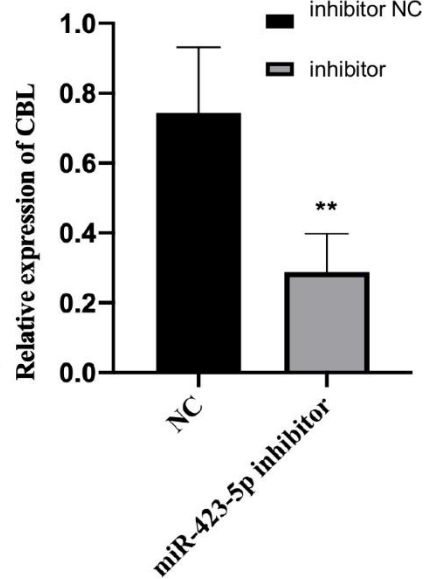


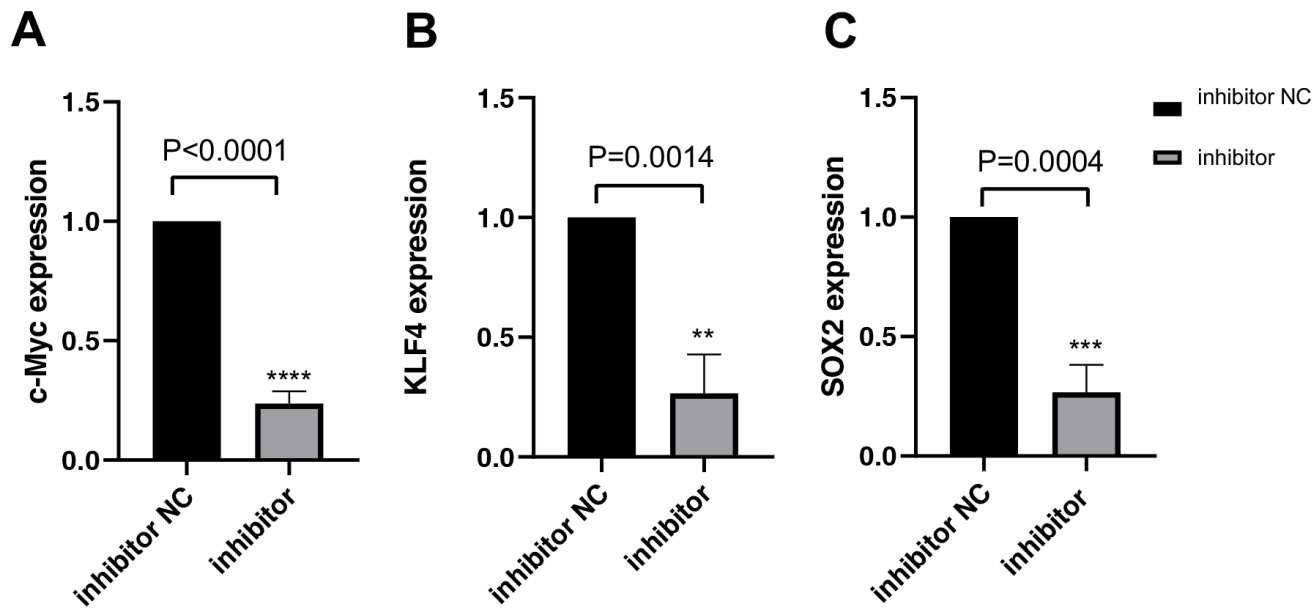
SUPPLEMENTARY FIGURES



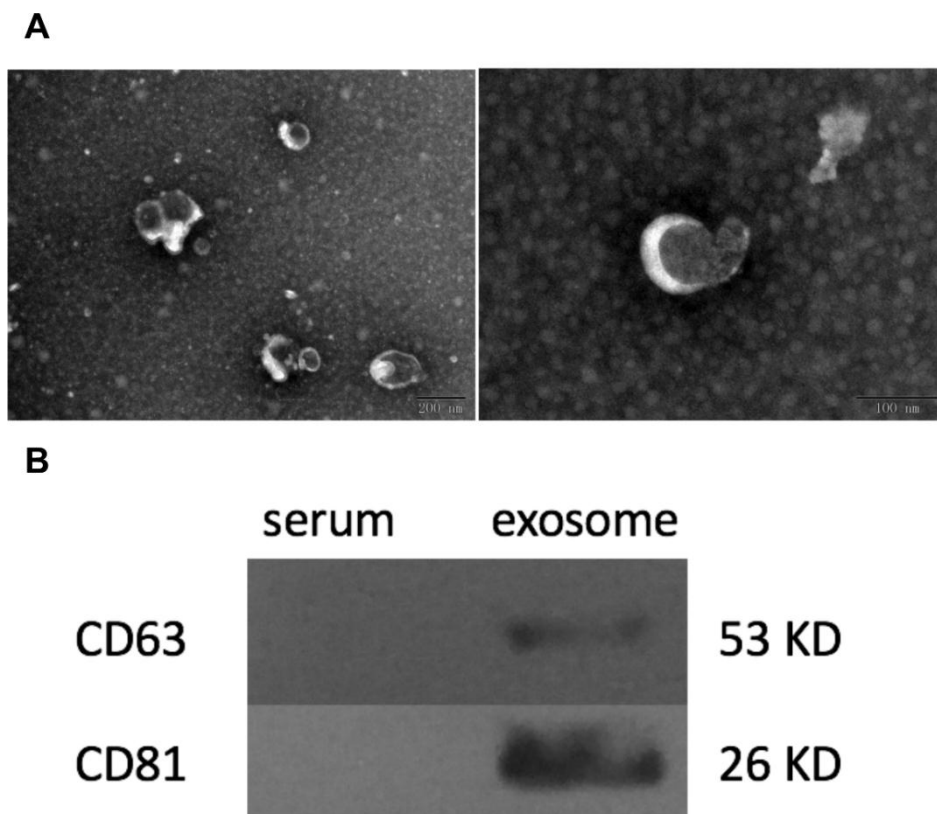
**Supplementary Figure 1. The hsa-miR-423-5p inhibition in breast cancer cell lines.** The expression level of hsa-miR-423-5p in control, negative control and hsa-miR-423-5p inhibitors of (A) MDA-MB-231 and (B) T47D.

**A****B****C****D****E**

**Supplementary Figure 2. The *in vivo* hsa-miR-423-5p inoculation and immune network analysis.** (A) The resected tumors from control, negative control and hsa-miR-423-5p knockdown group and (B) analysis of tumor size ( $\text{mm}^3$ ). The relative expression of (C) *TRB1*, (D) *TGFB1*, and (E) *CBL*.



**Supplementary Figure 3. The *in vitro* hsa-miR-423-5p breast cancer cell stemness analysis.** The relative expression of (A) *c-MYC*, (B) *KLF4*, and (C) *SOX2* in negative control and hsa-miR-423-5p knockdowned group.



**Supplementary Figure 4. Transmission Electron Microscopy (TEM) and Western Blot were used to verify the isolated exosomes from blood plasma.** (A) Representative exosome image obtained from a JEM-1200EX transmission electron microscope. Scale bars represent 100 nm and 200 nm. (B) the expression of exosomal markers CD81 and CD63 were performed by Western Blot.