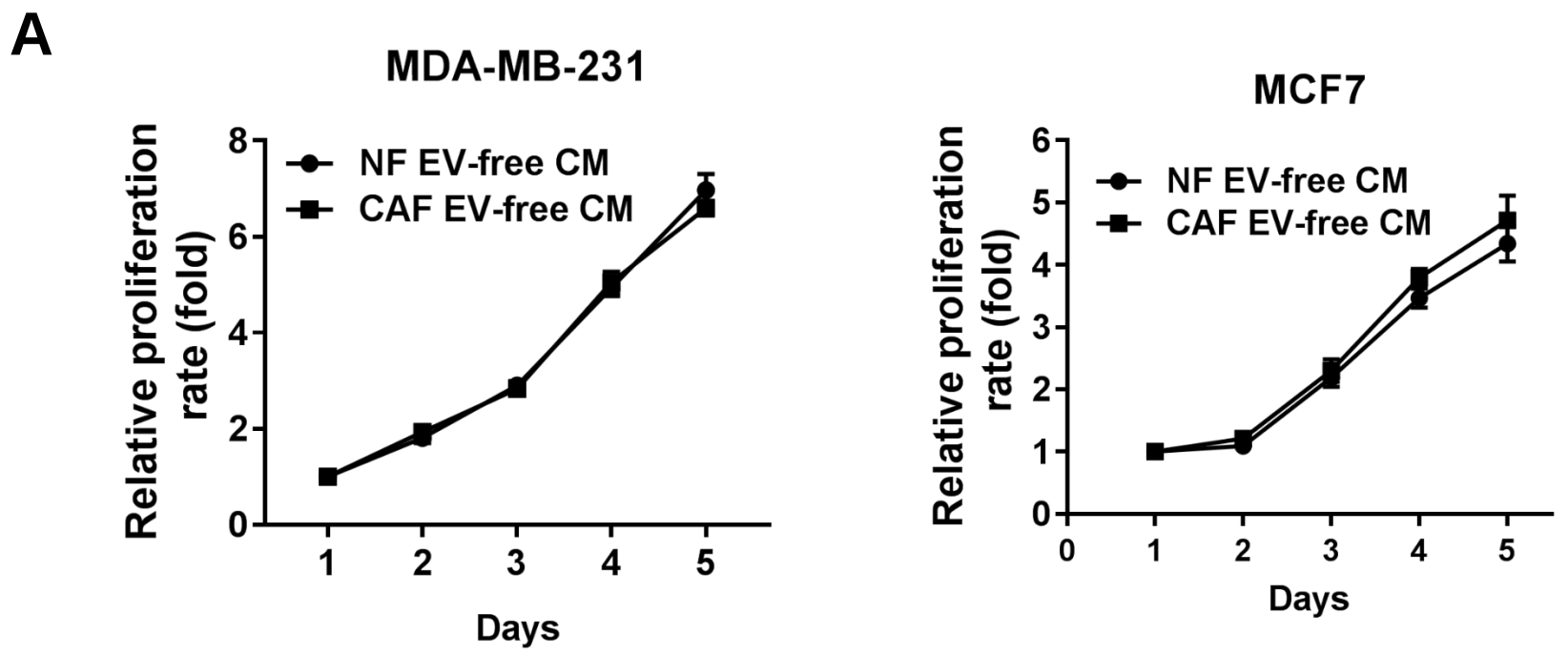
Supplementary Figure Legend:

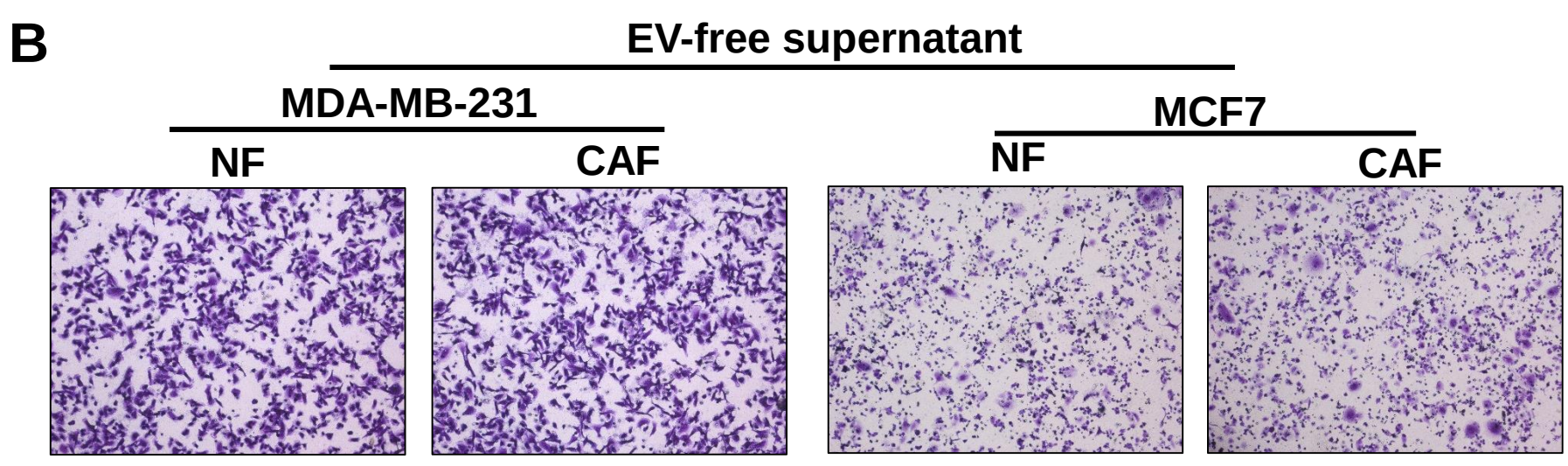
Supplementary Figure 1. CAF-mediated promotion of breast cancer cell proliferation and migration is in an exosome-dependent manner. After the breast cancer cells was treated with the EV-free conditioned medium of NFs or CAFs after ultracentrifugation, MTT **(A)** and transwell **(B)** assay were performed. Data are presented as means ± SEM (Student's t-test).

Supplementary Figure 2. Scratch wound healing assays. The assays were performed in MDA-MB-231 cells **(A)** and MCF7 cells **(B)**. **(C)** Quantification of the wound area in (A) and (B). Data are presented as means ± SEM ($^{\#\#}P < 0.01$; $^{***}P < 0.001$; Student's t-test).

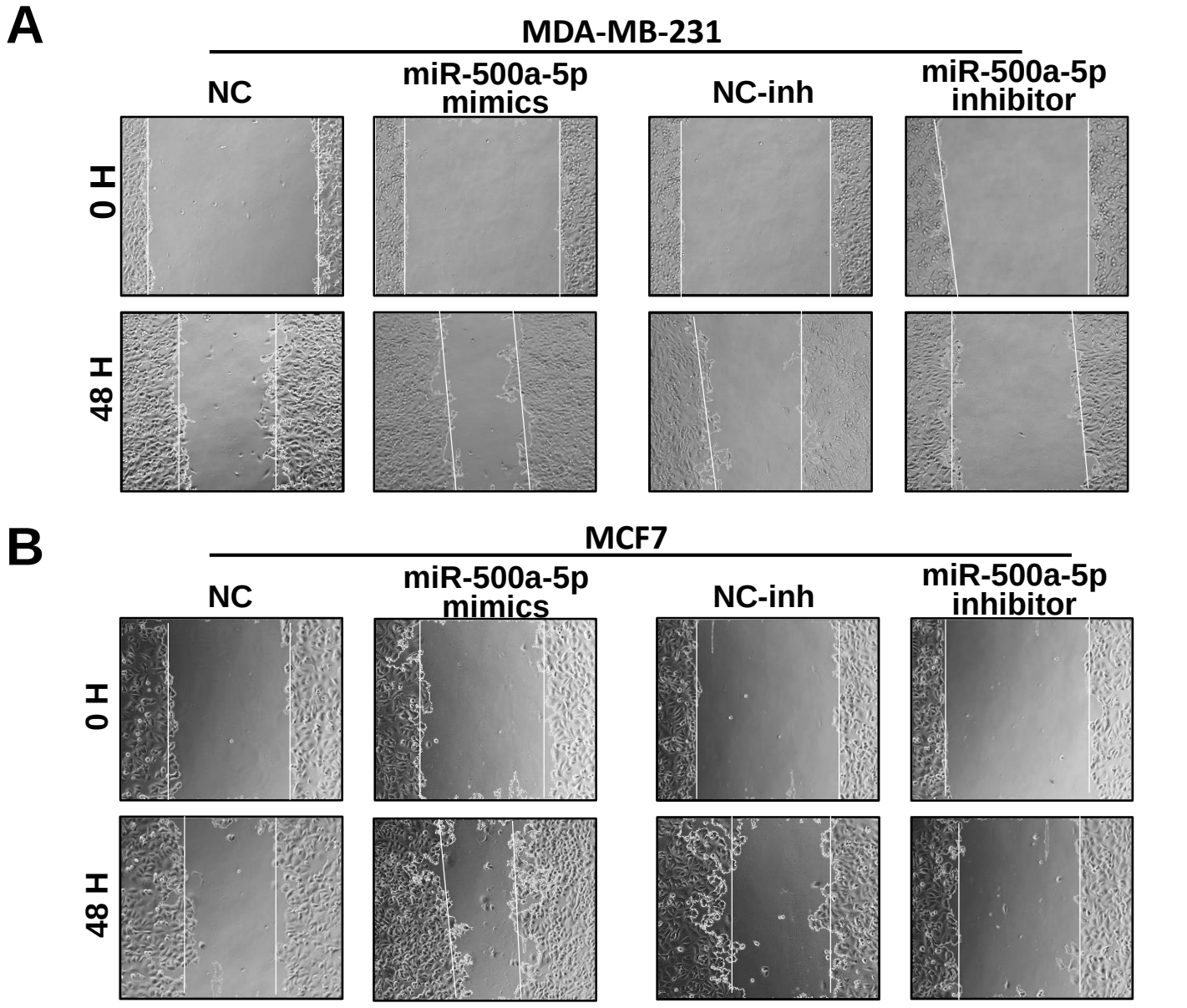
Supplementary Figure 3. USP28 inhibition increases breast cancer cell proliferation and metastasis. (A) The interference efficiency of USP28 siRNAs was detected by Western blot assay. MTT **(B)** and transwell **(C)** assays were performed in MDA-MB-231 and MCF7 cells in which USP28 was inhibited. Data are presented as means ± SEM ($^{*}P < 0.05$; $^{**}P < 0.01$; $^{***}P < 0.001$; Student's t-test).

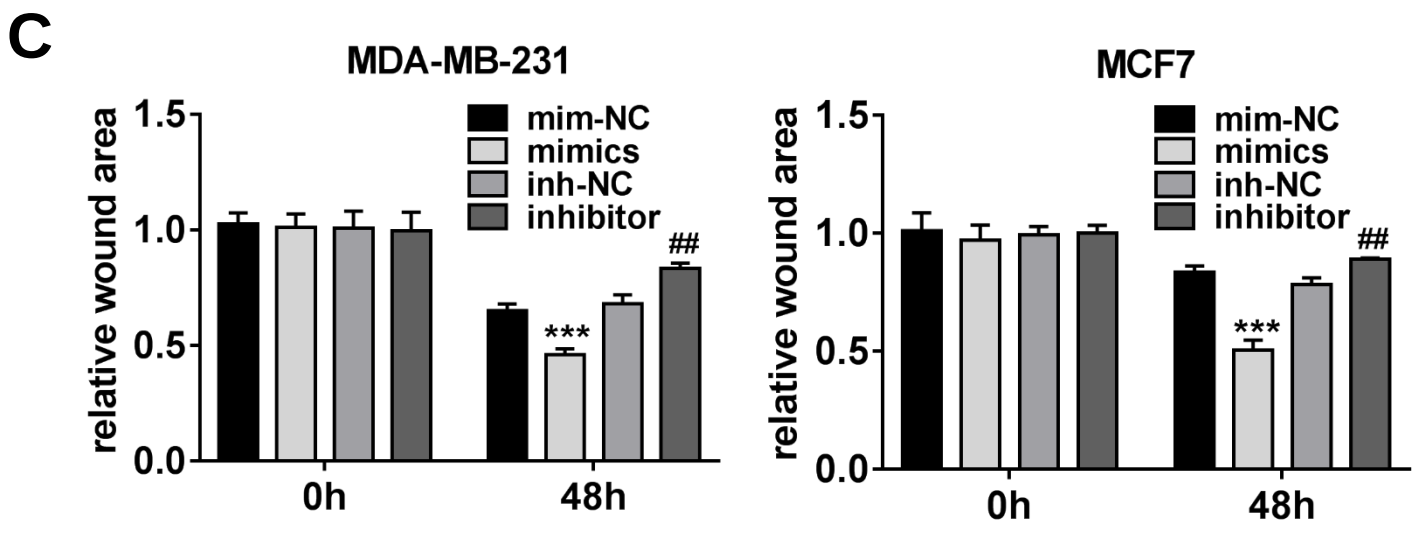
Supplementary Figure 4. Quantification of western blotting in Figure 5 (E) and Figure 6 (L). **(A)** Quantification of western blotting in Figure 5 (E). **(B)** Quantification of western blotting in Figure 6 (L). Data are presented as means ± SEM ($^{\#, *}P < 0.05$; $^{\#\#, **}P < 0.01$; $^{***}P < 0.001$; Student's t-test).



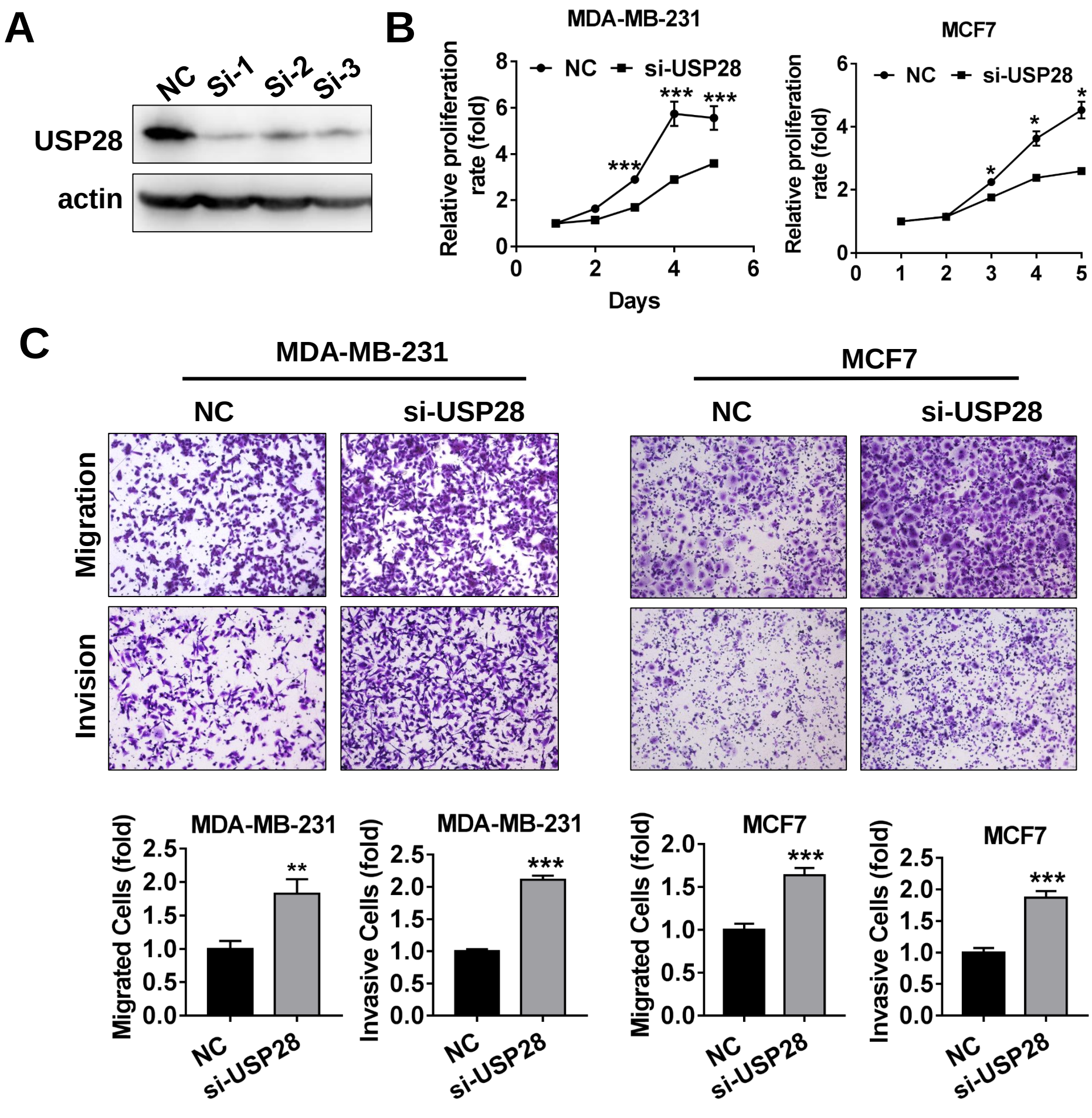


Supplementary Figure 1

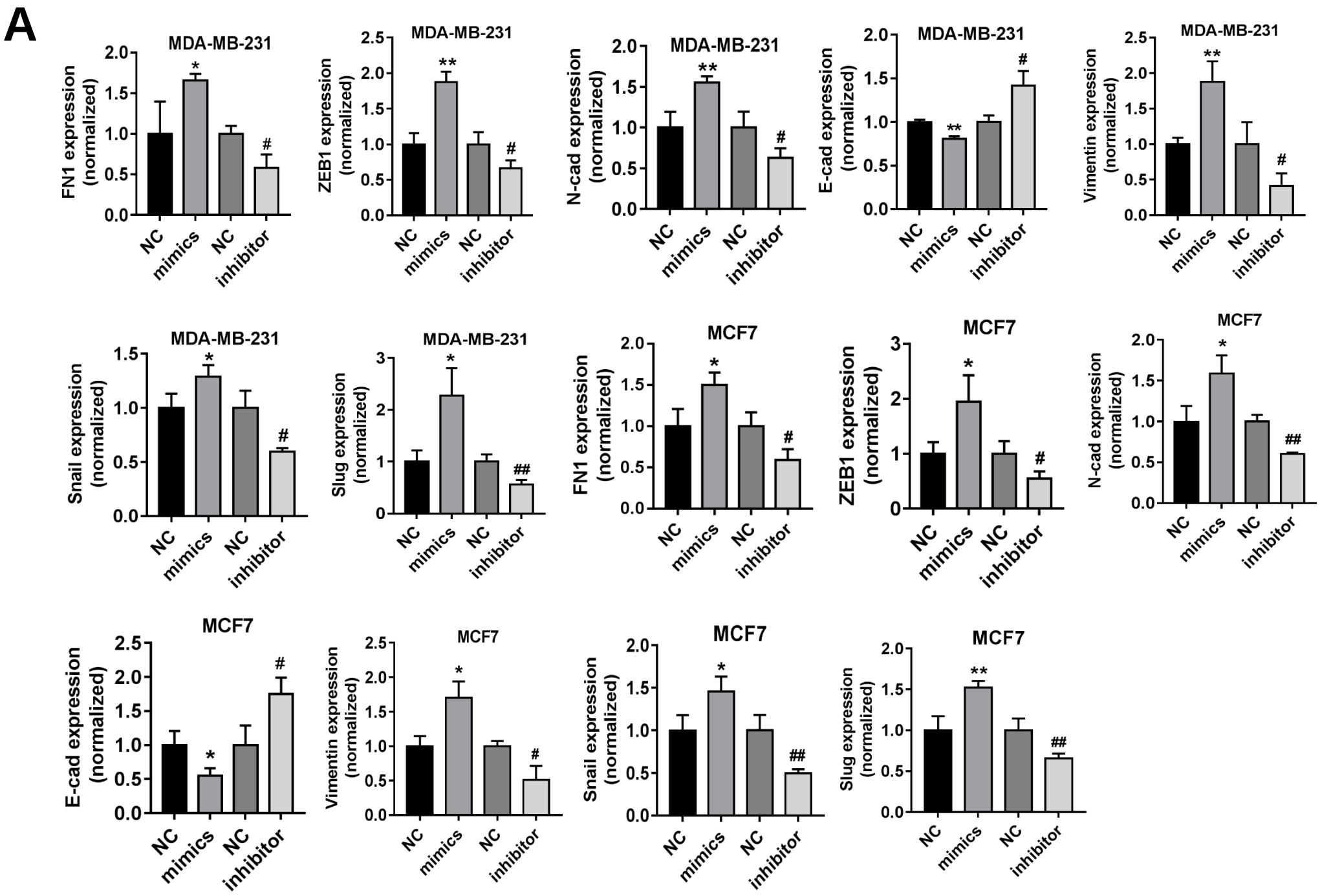


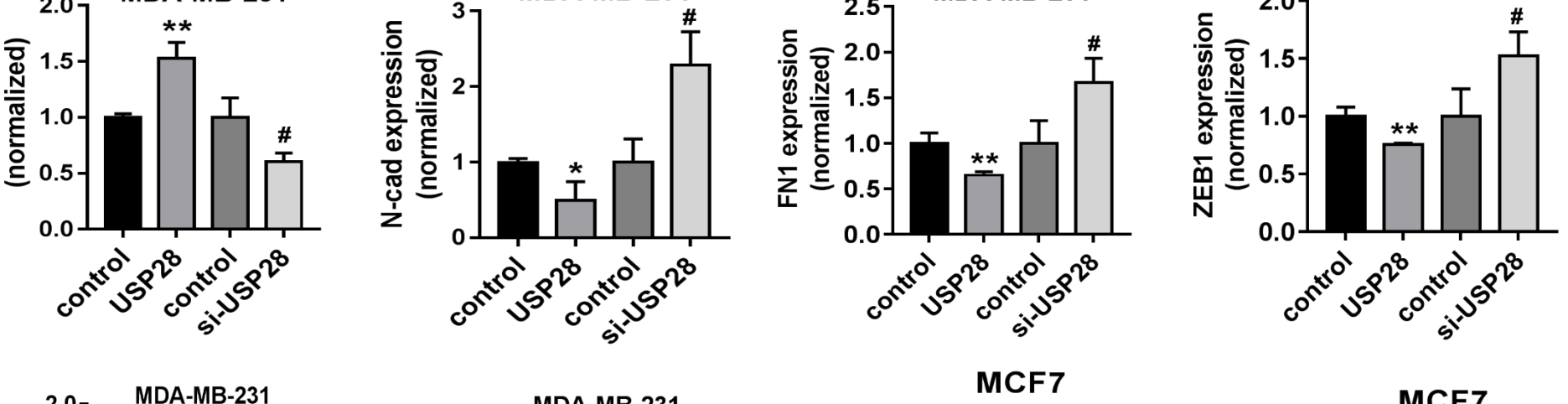


Supplementary Figure 2



Supplementary Figure 3





Supplementary Figure 4