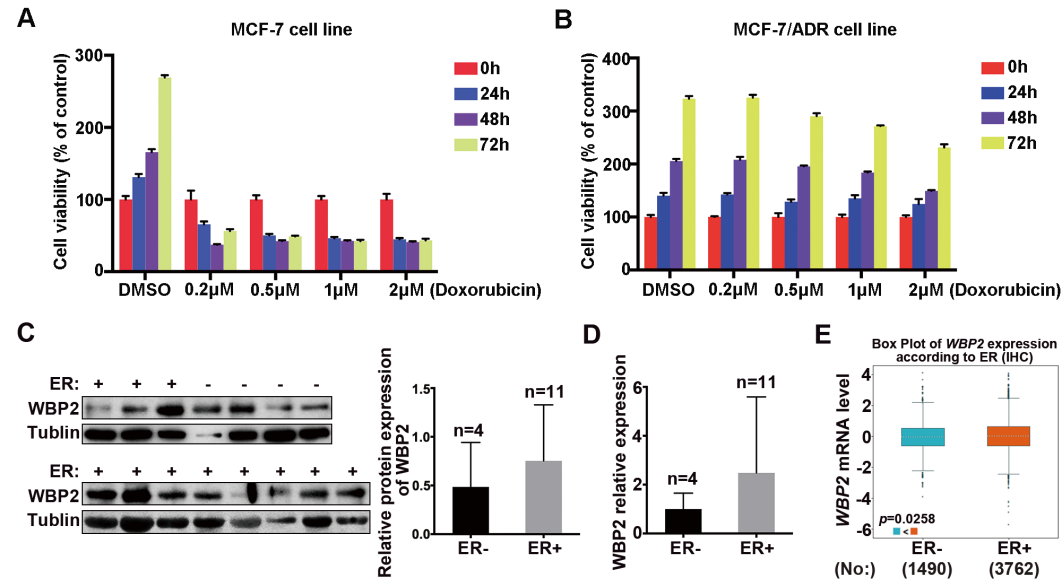
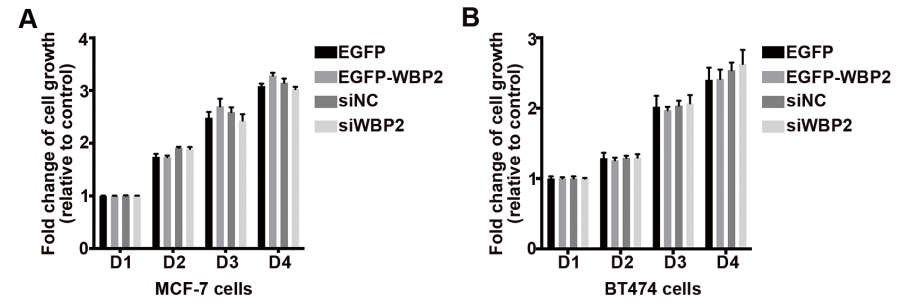


Fig. S1



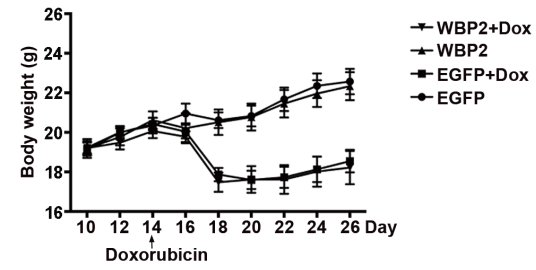
**Fig. S1. Validation of doxorubicin resistant MCF-7/ADR cells and evaluation of WBP2 expression in ER positive and ER negative patients. (A) and (B)** Cell viabilities of MCF-7 and MCF-7/ADR cells after treatment with Doxorubicin. **(C)** and **(D)** Protein and mRNA levels of WBP2 in ER positive and ER negative breast cancer patients (ER+: n=11, ER-: n=4). **(E)** Differential expression of WBP2 mRNA between 1490 ER negative and 3762 ER positive breast cancer patients.

Fig. S2



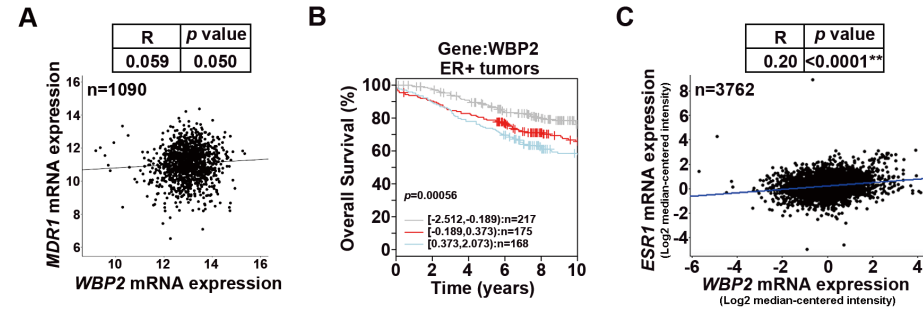
**Fig. S2. Effects of WBP2 on growth ability in ER positive cells. (A)** Cell viabilities of WBP2 overexpressed/silenced MCF-7 cells. **(B)** Cell viabilities of WBP2 overexpressed/silenced BT474 cells.

Fig. S3



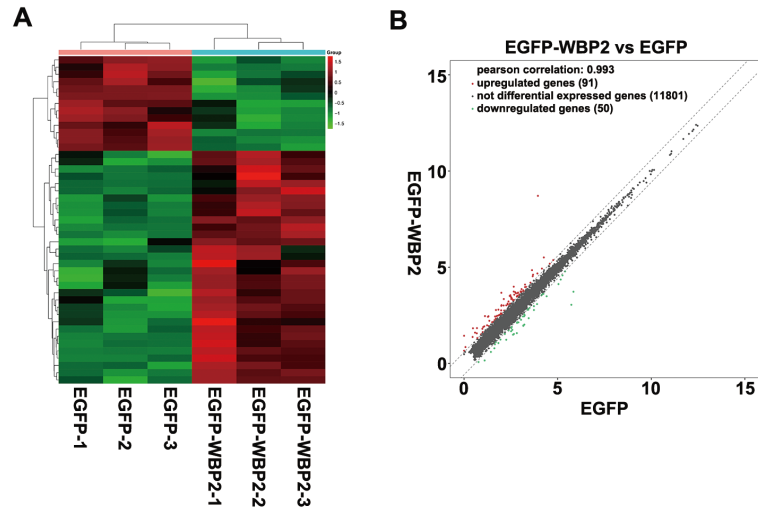
**Fig. S3. Body weight of four group breast cancer bearing mice.** WBP2+Dox: WBP2 overexpressed MCF-7 cells treated with doxorubicin. WBP2: WBP2 overexpressed MCF-7 cells. EGFP+Dox: Control MCF-7 cells treated with doxorubicin. EGFP: Control MCF-7 cells.

Fig. S4



**Fig. S4. Correlation analysis among WBP2, MDR1, and ESR1 using online available dataset. (A)** The correlation analysis between MDR1 and WBP2 using TCGA dataset. **(B)** The correlation analysis between WBP2 expression and progression and poor clinical outcomes of ER positive tumors utilizing GOBO Gene Set Analysis. N indicates samples number.  $[-2.512,-0.189)$ ,  $[-0.189,0.373)$ ,  $[0.373,2.073)$  indicate Log2 median-centered intensity of *WBP2* mRNA in all these samples. **(C)** The correlation analysis between WBP2 and ER (ESR1) in ER positive breast cancer patients by using Breast Cancer Gene-Expression Miner v4.1. R indicates Pearson's coefficient.

Fig. S5



**Fig. S5. Results of genome wide mRNA screen assay in MCF-7 cells. (A)** Heat map of differentially expressed genes between EGFP and EGFP-WBP2 cells. **(B)** Scatter plot of differentially expressed genes between EGFP and EGFP-WBP2 cells. EGFP-WBP2: WBP2 overexpressed MCF-7 cells. EGFP: Control MCF-7 cells.