

Supplementary description

Figure S1 Relation of SLC3A2 and therapeutic responses in breast cancer. **A-C** The receiver operating characteristic curve plot of the association between SLC3A2 expression and responses to endocrine therapy, anti-HER2 therapy, and chemotherapy in breast cancer cohort considering pathological complete response. **D-F** The receiver operating characteristic curve plot of the association between SLC3A2 expression and responses to endocrine therapy, anti-HER2 therapy, and chemotherapy in breast cancer cohort considering relapse-free survival at 5 years.

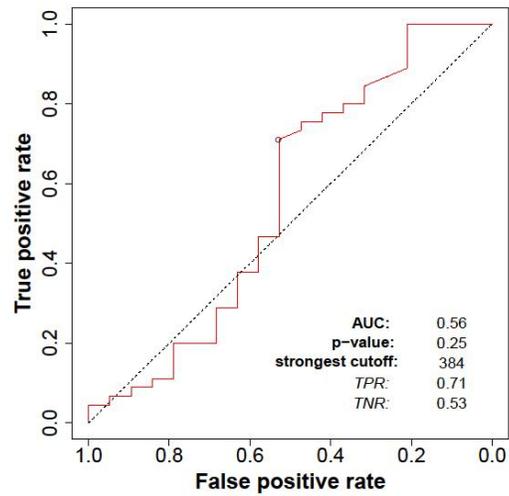
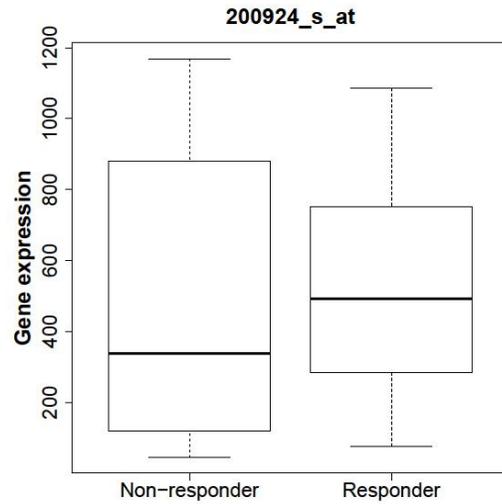
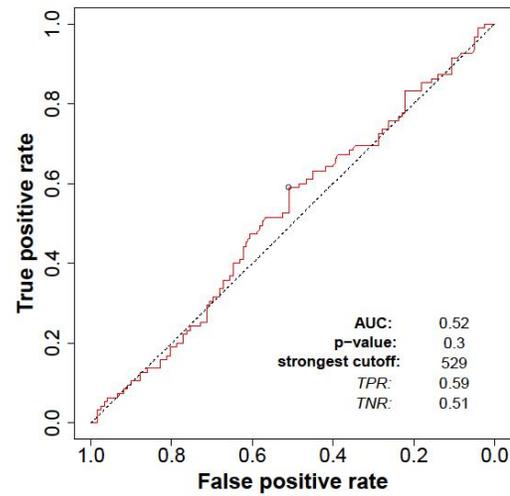
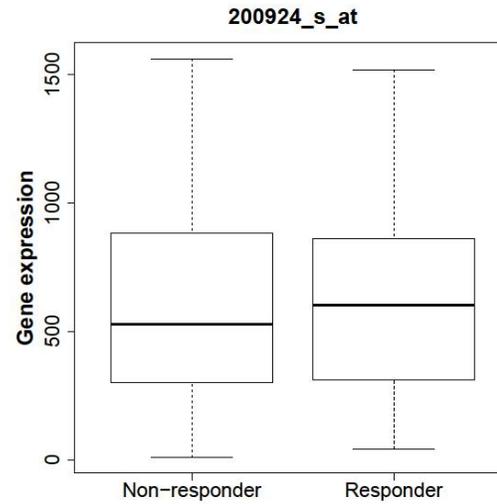
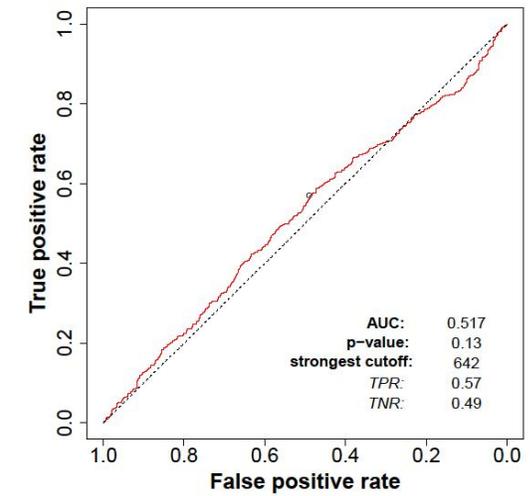
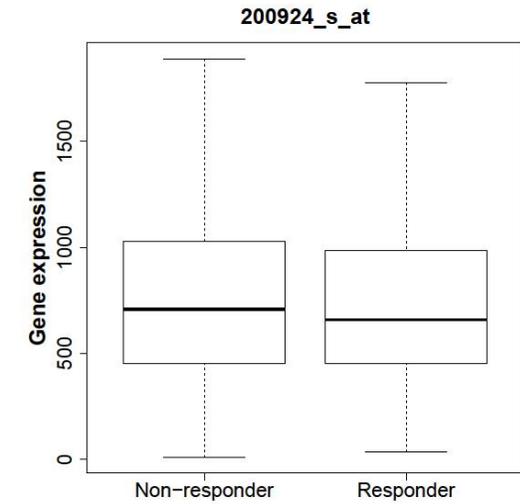
Figure S2 Relation of SLC3A2 and clinicopathological characteristics in breast cancer. **A-H** Correlations between SLC3A2 mRNA expression and genders, cancer stages, nodal metastasis status, molecular subtypes, races, ages, menopause status and TP53 mutation status. ** $p < 0.01$, *** $p < 0.001$.

Figure S3 Relation of SLC3A2 and single cell sequencing in breast cancer. **A** Correlations between SLC3A2 and diverse functional states in breast cancer from CancerSEA database. **B-I** Box diagram and scatter diagram showing the SLC3A2 expression among four single cell datasets (EXP0052, EXP0053, EXP0054, EXP0055).

Figure S4 Everolimus inhibits the proliferation of T47D cells. **A** T47D cells were treated with everolimus (10 μM) for 0, 24, 48, or 72 h, and cell viability was assayed. **B** Comparison of T47D cell proliferative capacity among control and everolimus (10 μM) groups at 72 h via Edu staining. Scale bar = 50 μm . **C** T47D cells were treated with varying doses of everolimus alone or in combination with different doses of erastin for 48 h; cell viabilities were measured. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

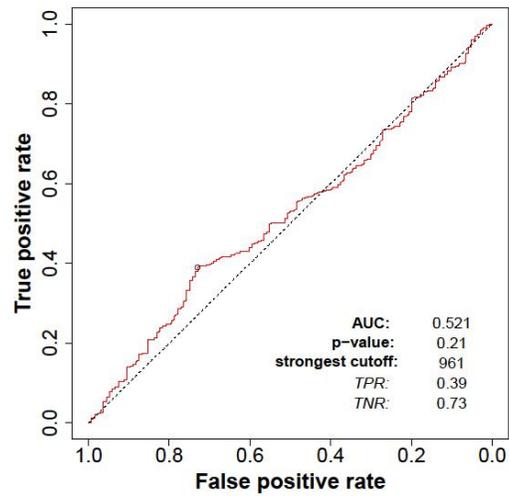
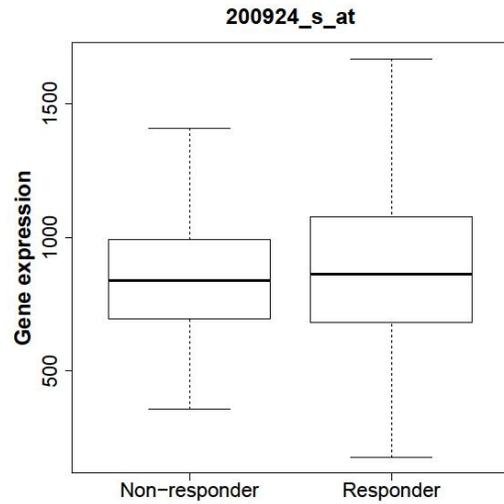
Figure S5 SLC3A2 influences cell viability of breast cancer cells by everolimus treatment. **A** T47D cells were treated with everolimus (10 μM) for 0, 24, 48, or 72 h with or without the overexpression of SLC3A2. Cell viability was assayed. **B** MCF7 cells were treated with everolimus (10 μM) for 0, 24, 48, or 72 h with or without the downexpression of SLC3A2. Cell viability was assayed. **C** T47D cells were treated with everolimus (10 μM) for 0, 24, 48, or 72 h with or without the downexpression of SLC3A2. Cell viability was assayed. * $p < 0.05$.

Pathological complete response (n=1775)

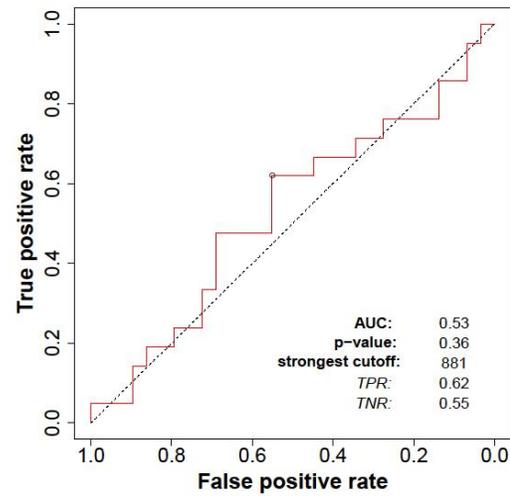
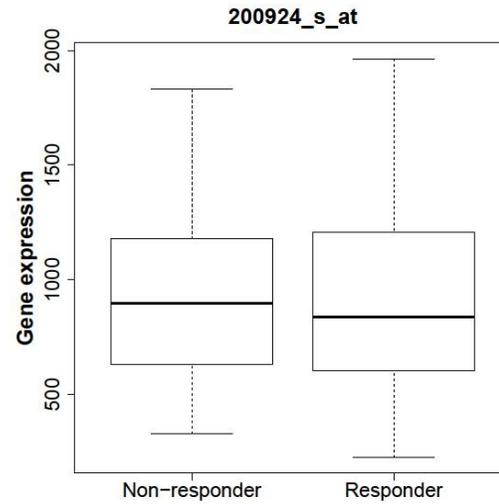
A Endocrine therapy**B** Anti-HER2 therapy**C** Chemotherapy

Relapse-free survival at 5 years (n=1329)

D Endocrine therapy



E Anti-HER2 therapy



F Chemotherapy

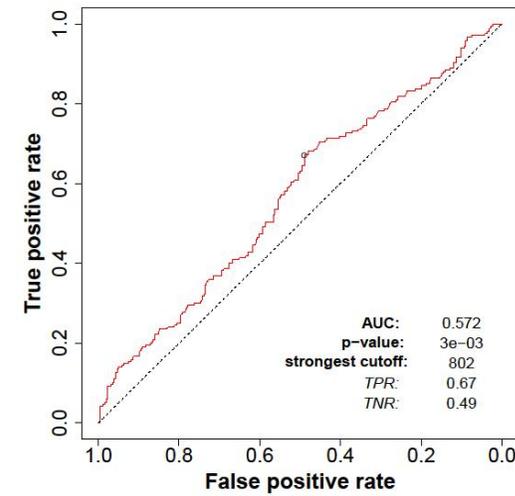
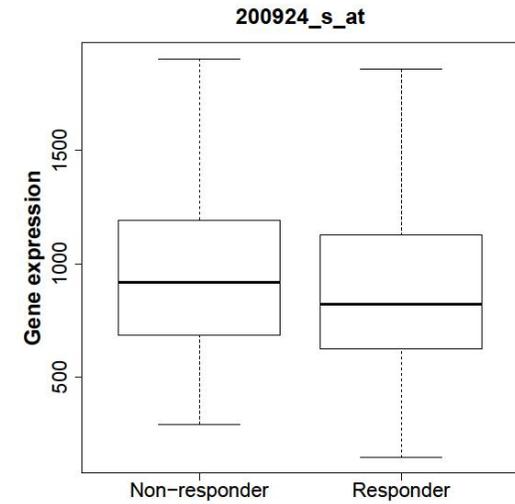
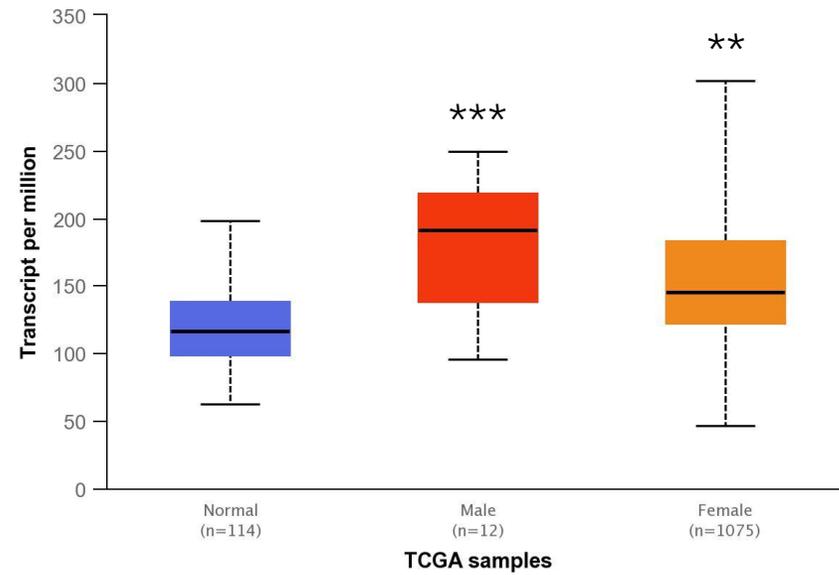
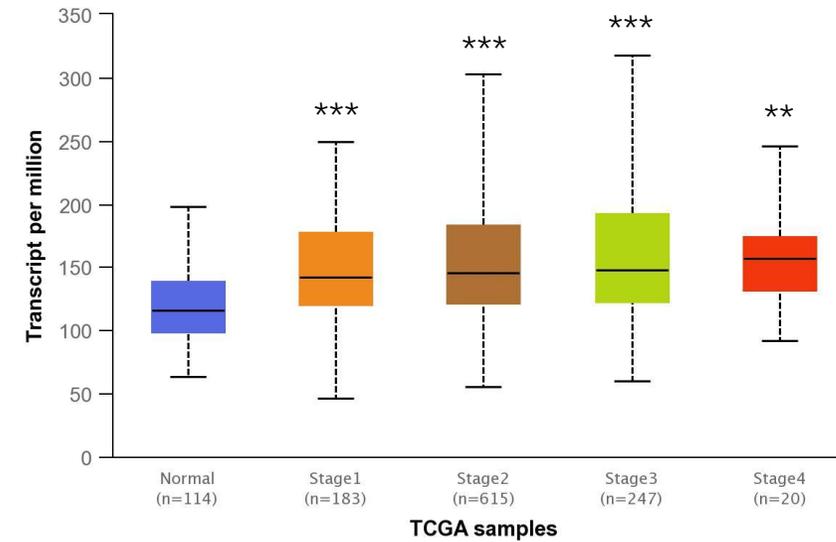
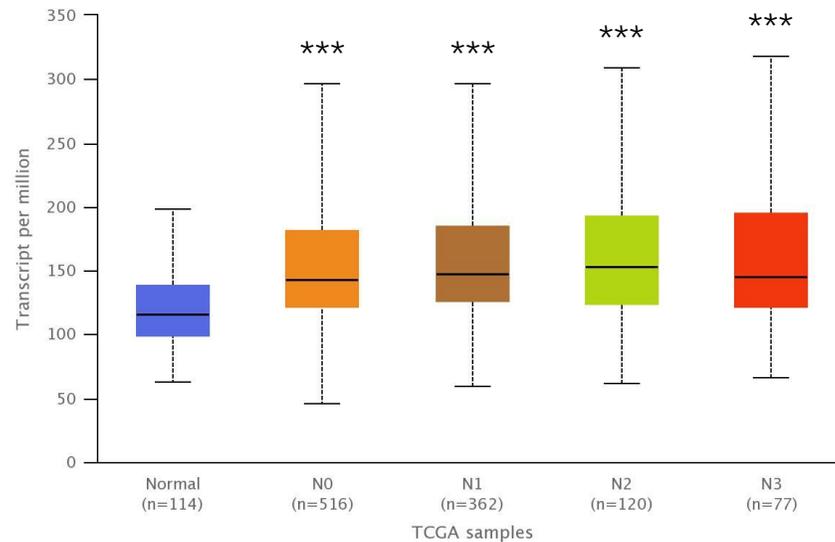
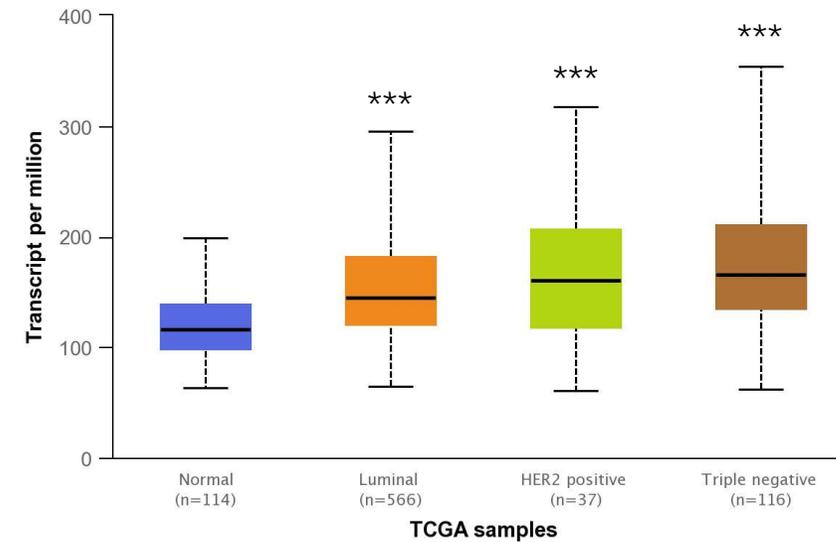


Figure S2

A Expression of SLC3A2 in BRCA based on patient's gender**B** Expression of SLC3A2 in BRCA based on individual cancer stages**C** Expression of SLC3A2 in BRCA based on nodal metastasis status**D** Expression of SLC3A2 in BRCA based on breast cancer subclasses

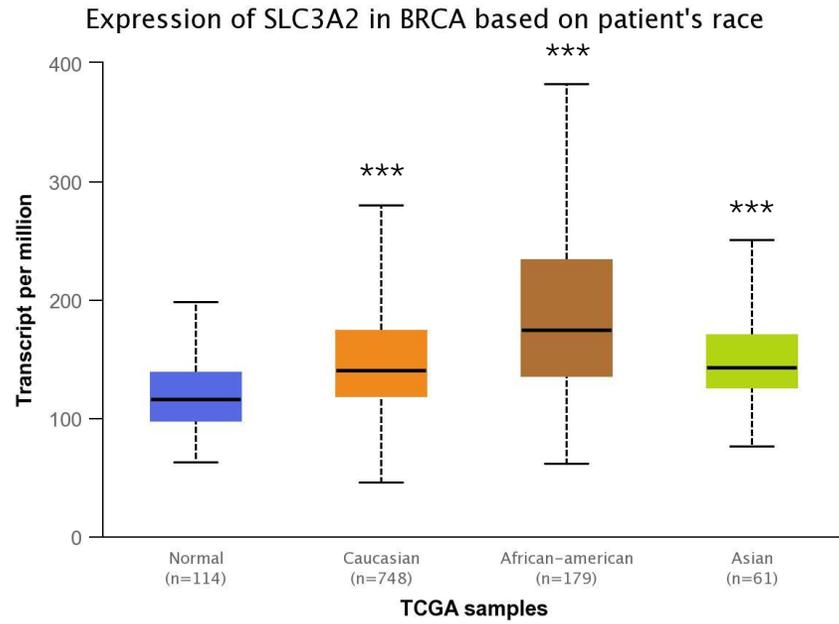
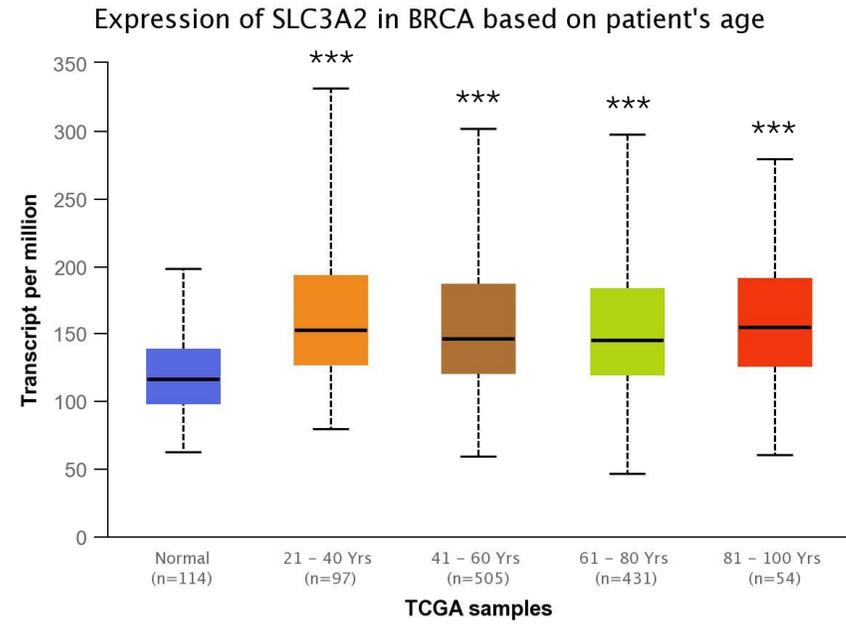
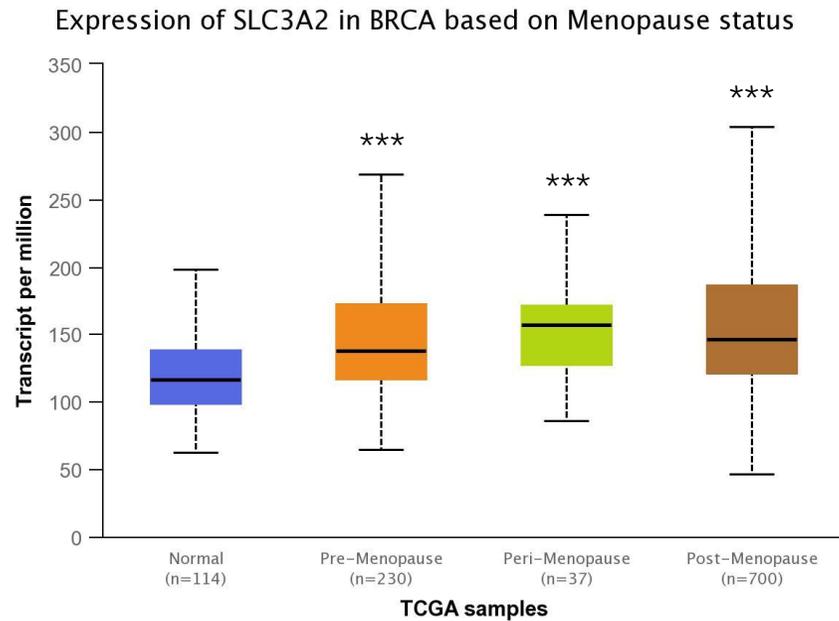
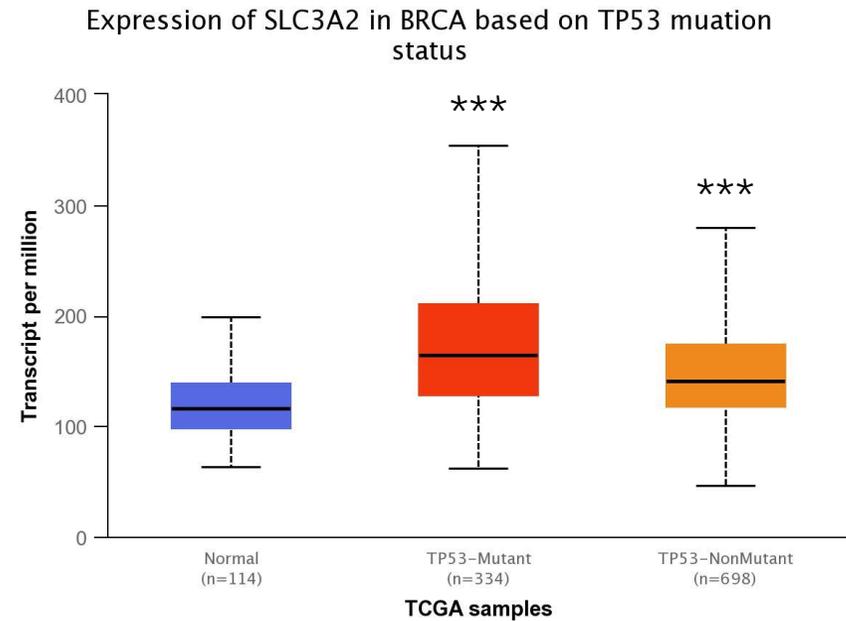
E**F****G****H**

Figure S3

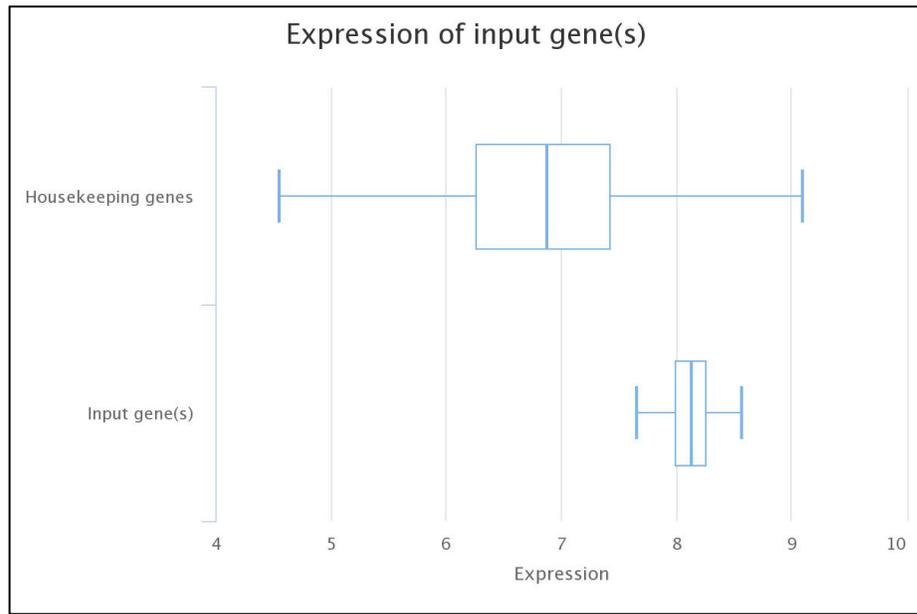
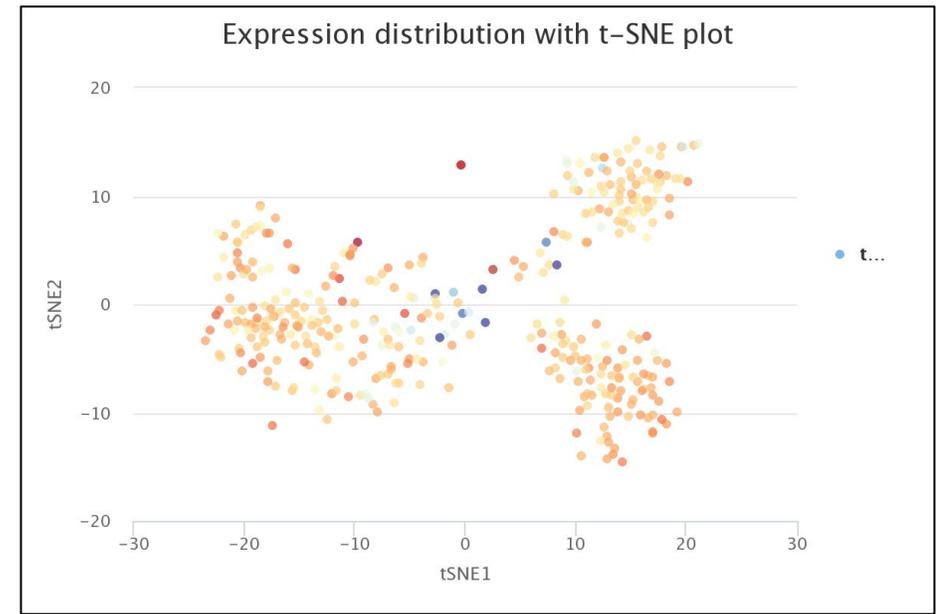
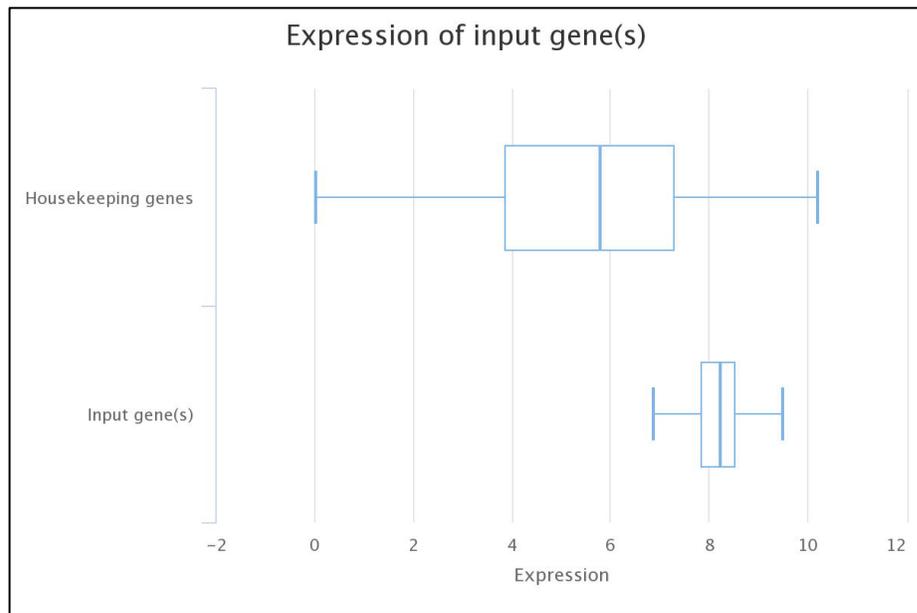
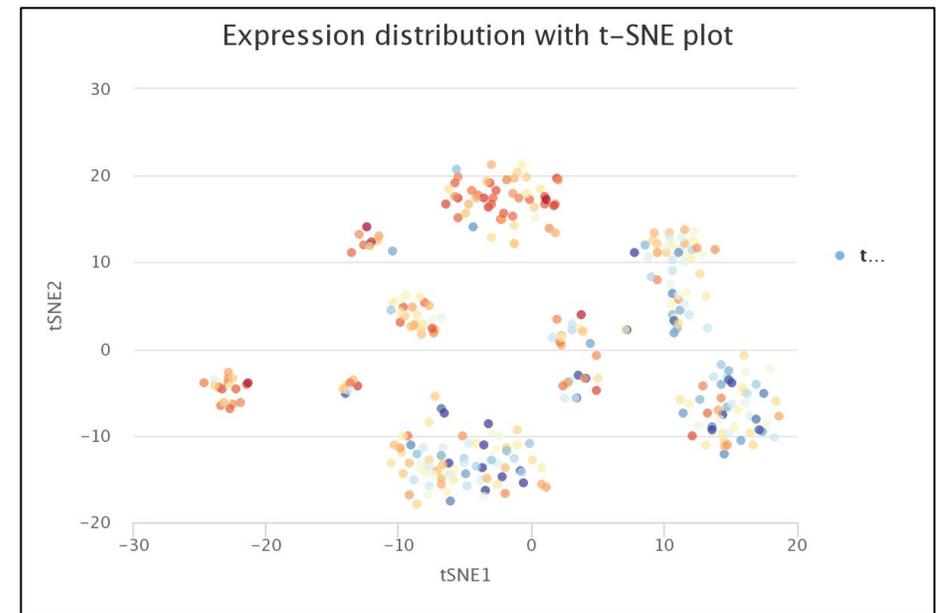
A

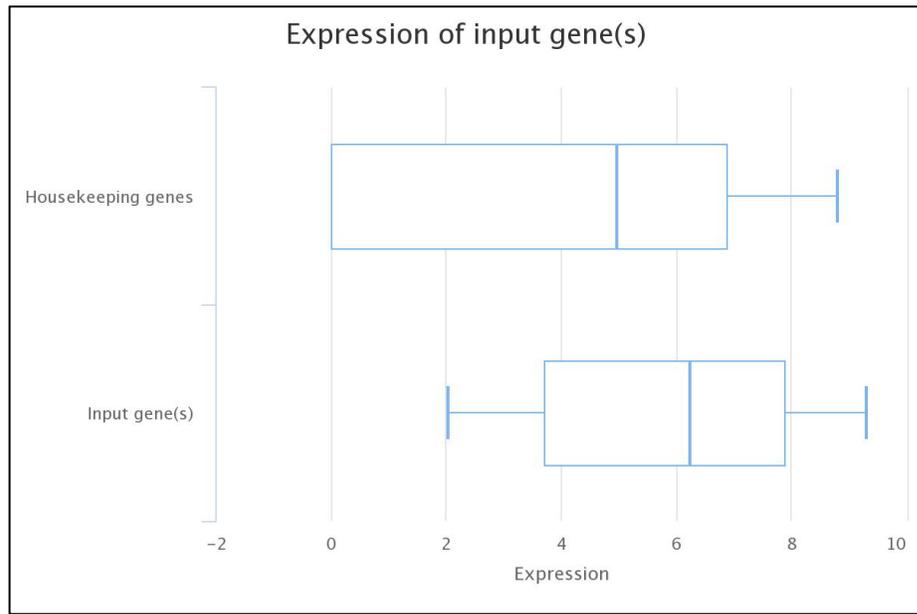
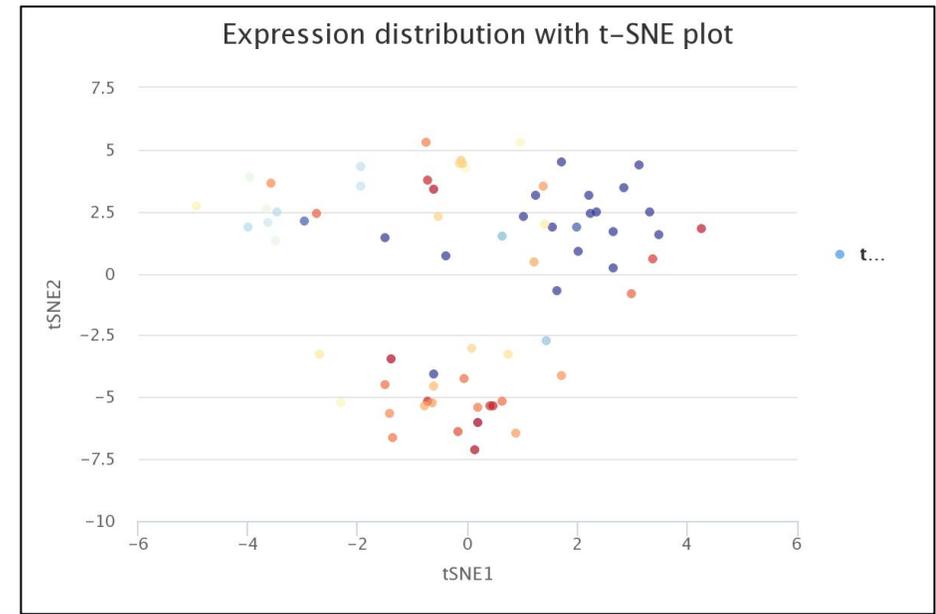
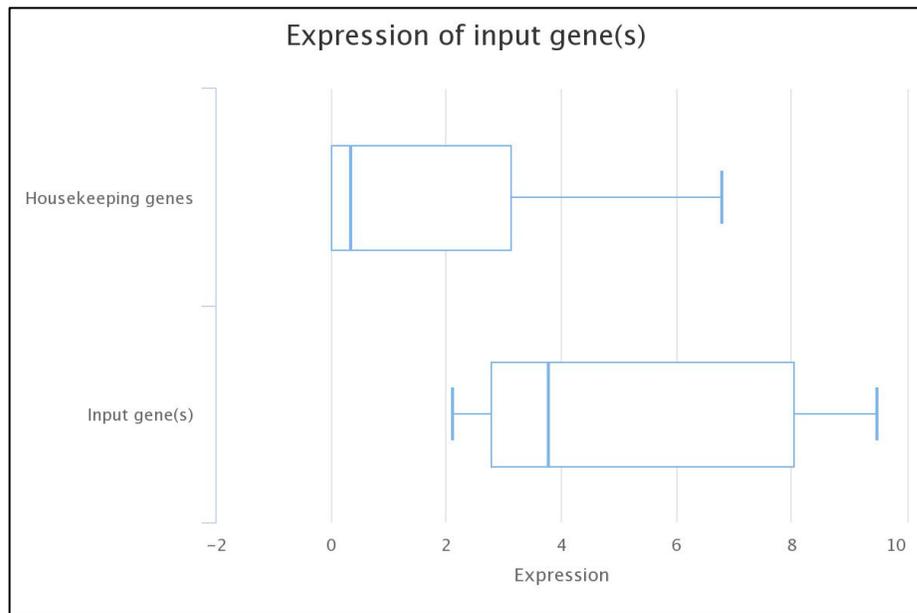
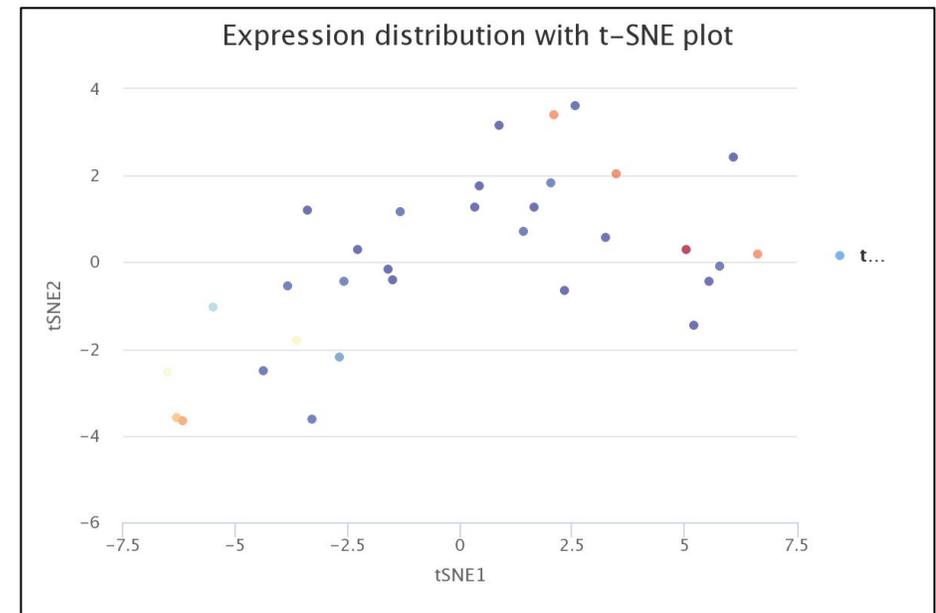
Correlations between the gene (gene list) of interest and functional states in different single-cell datasets.

Correlation  -0.5 -0.25 0 0.25 0.5

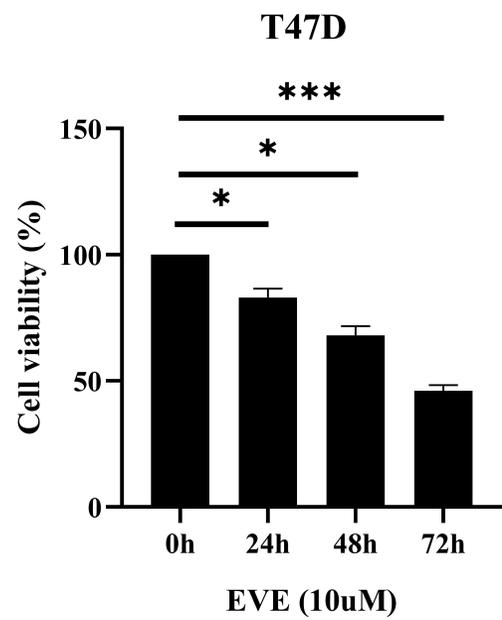


ExpID	Name [?]	Cancer	No. cells	Angiogenesis	Apoptosis	CellCycle	Differentiation	DNADamage	DNAREpair	EMT	Hypoxia	Inflammation	Invasion	Metastasis	Proliferation	Quiescence	Stemness
 EXP0052	Braune EB. Stem Cell Reports. 2016 (PDX)	Breast cancer	369	Light Orange	Dark Orange	Light Orange	Light Blue	Light Orange	Light Orange	Light Orange	Dark Orange	Light Blue	Light Orange	Light Orange	Light Orange	Light Orange	Light Orange
 EXP0053	Chung W. Nat Commun. 2017 (Breast)	Breast cancer	317	Light Blue	Dark Orange	Light Orange	Light Orange	Light Orange	Light Orange	Light Blue	Light Orange	Light Orange	Dark Orange	Light Orange	Light Blue	Light Orange	Light Blue
 EXP0054	Jordan NV. Nature. 2016 (CTC)	Breast cancer	70	Light Blue	Dark Red	Dark Red	Light Orange	Dark Red	Dark Red	Light Orange	Light Orange	Light Orange	Dark Red	Dark Red	Light Orange	Light Orange	Light Orange
 EXP0055	Aceto N. Mol Cancer Res. 2018 (CTC)	Breast cancer	32	Light Orange	Light Orange	Light Orange	Light Orange	Light Blue	Light Orange	Light Orange	Light Orange	Light Blue	Light Orange	Light Blue	Light Orange	Dark Blue	Light Orange

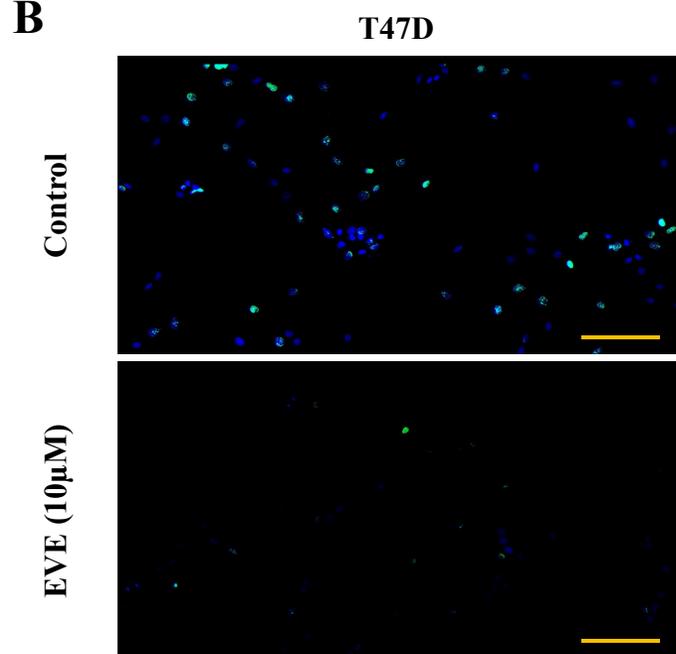
B**C****D****E**

F**G****H****I**

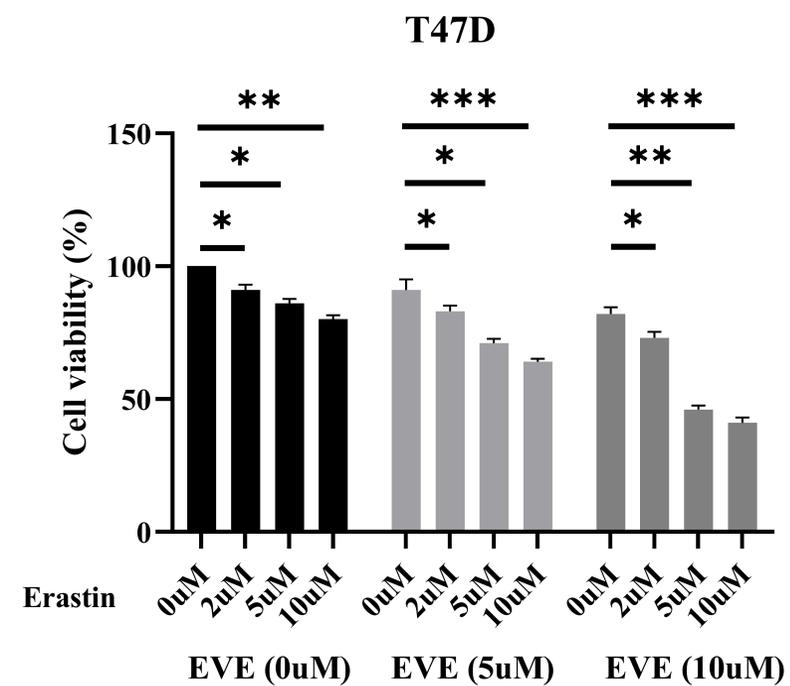
A



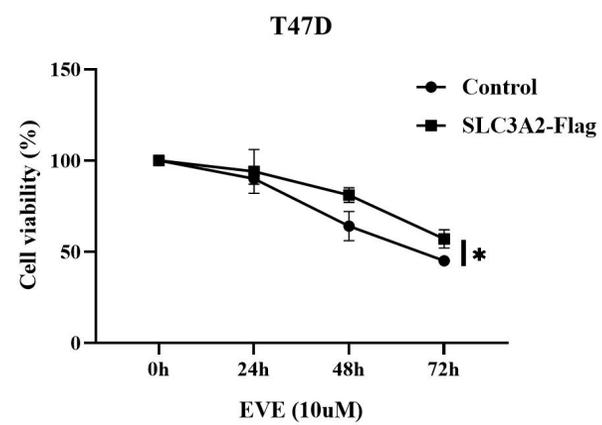
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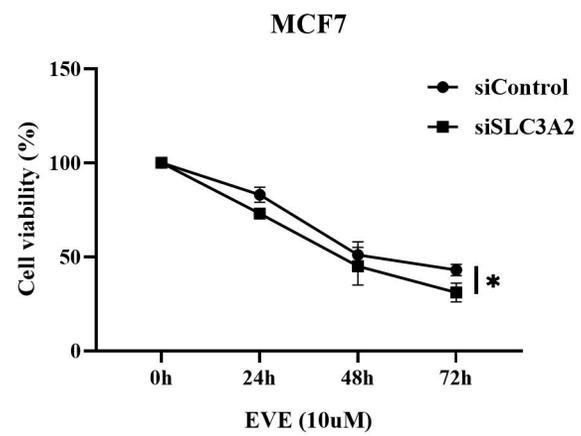
C



A



B



C

