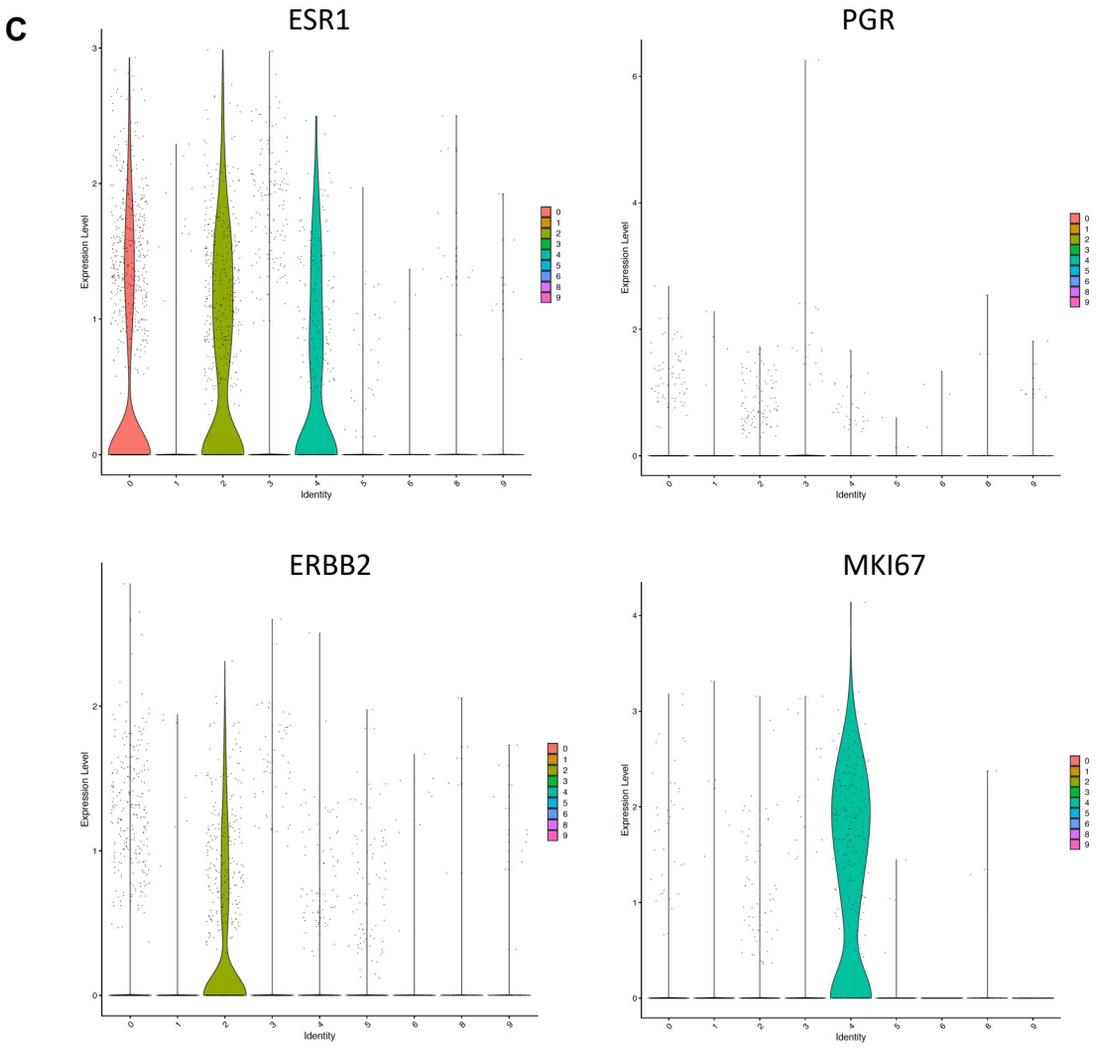
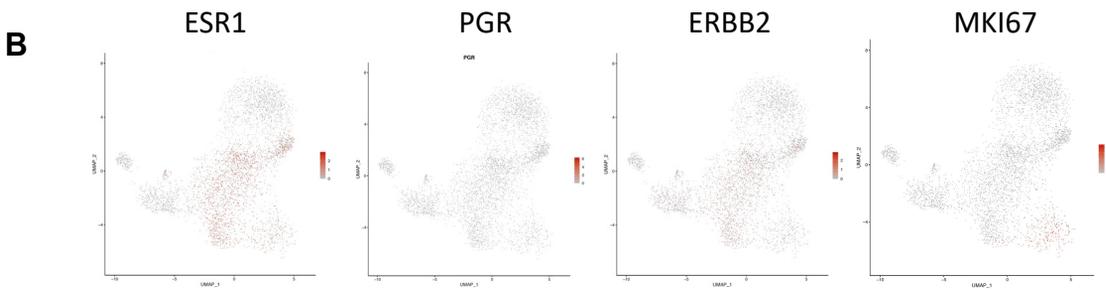
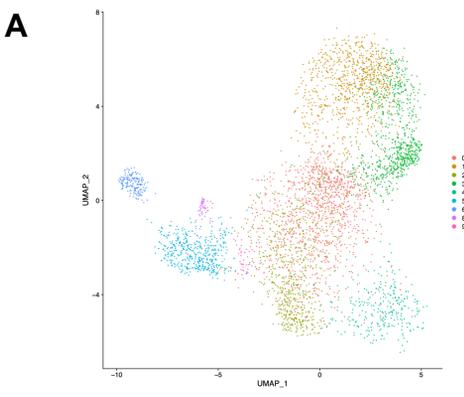
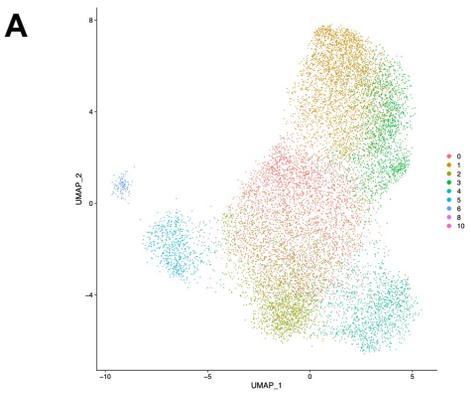


**Figure S1. Single-cell analysis of the epithelial components of luminal-HER2 (ER-positive/HER2-positive) breast cancer**

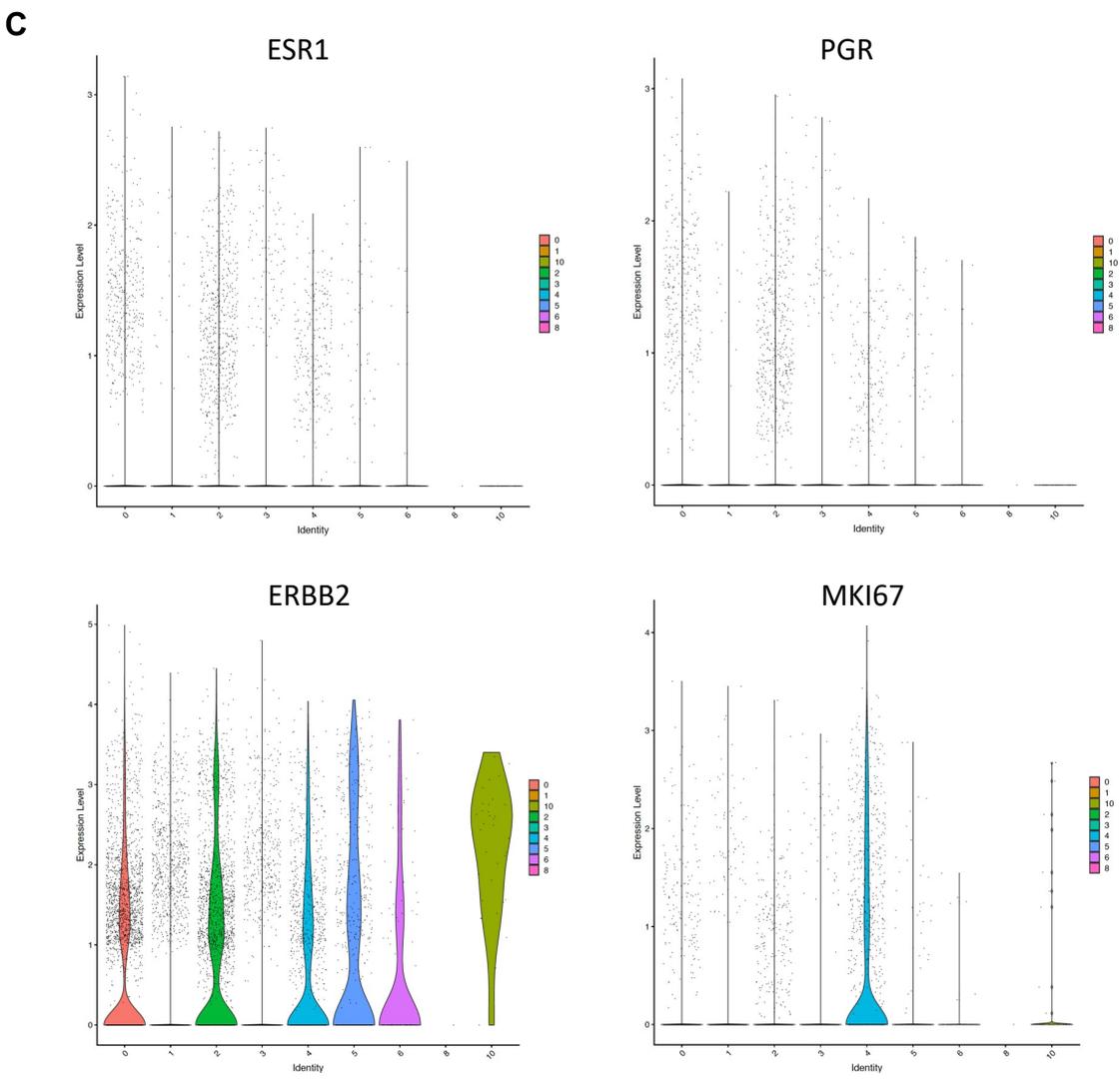
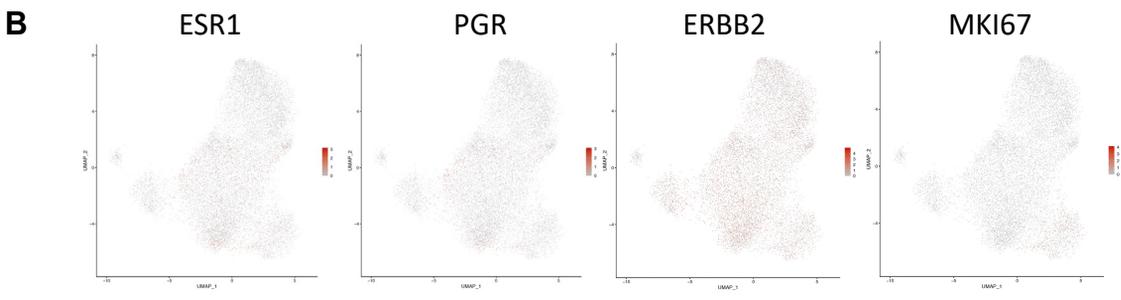
**(A)** A UMAP plot of epithelial cells in the luminal-HER2 breast samples.  
**(B)** UMAP plots with representative marker expression.  
**(C)** Violin plots with representative marker expression.



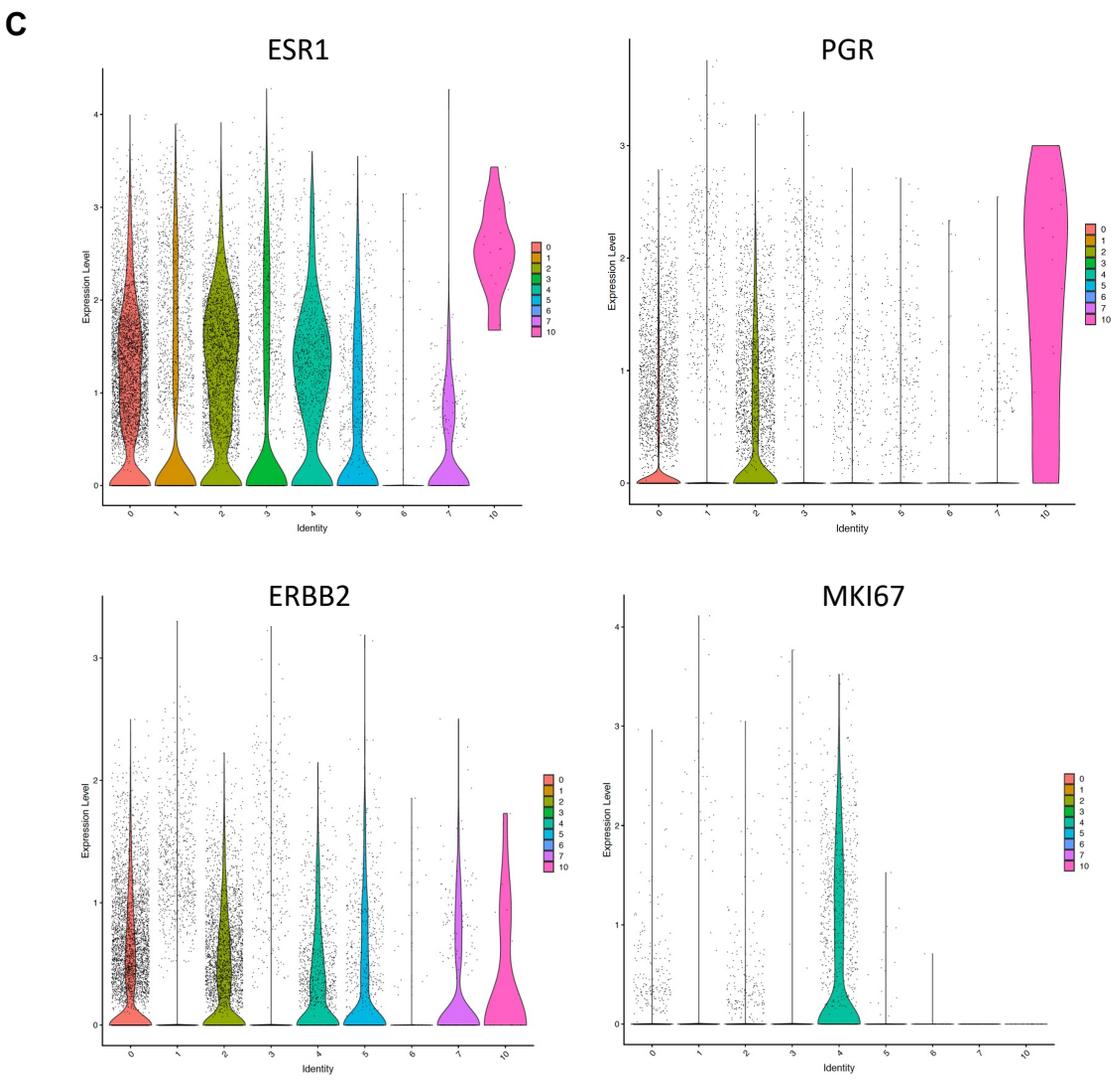
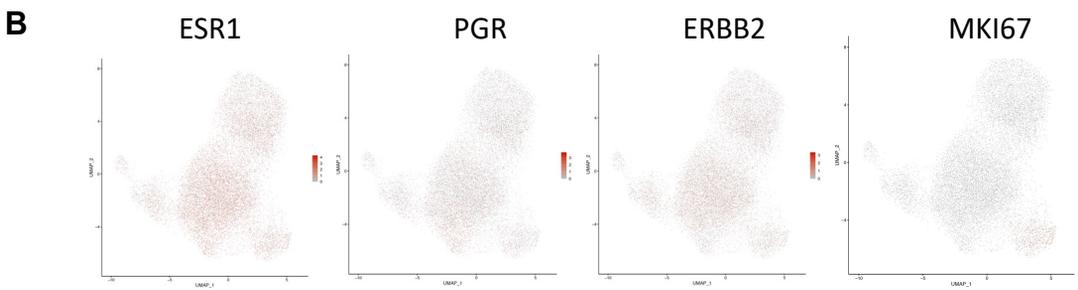
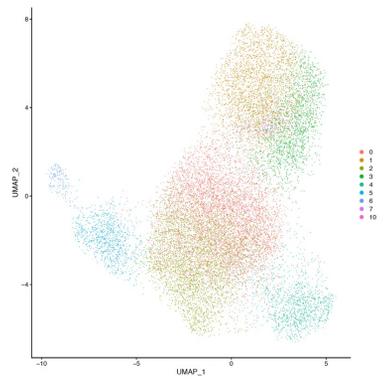


**Figure S2. Single-cell analysis of the epithelial components of pure-HER2 (ER-negative/HER2-positive) breast cancer**

(A) A UMAP plot of epithelial cells of the pure-HER2 breast samples.  
(B) UMAP plots with representative marker expression.  
(C) Violin plots with representative marker expression.



**A** **Figure S3. Single-cell analysis of the epithelial components of luminal (ER-positive/HER2-negative) breast cancer**  
(A) A UMAP plot of epithelial cells of the luminal breast samples.  
(B) UMAP plots with representative marker expression.  
(C) Violin plots with representative marker expression.



**Figure S4. Comparison of gene expression levels of representative breast cancer markers among the Luminal-HER2 subtype, pure-HER2 subtype, and Luminal subtype**

H: Luminal-HER2 subtype, L: pure-HER2 subtype, Luminal: Luminal subtype.  
N: The presence of HER2 amplification but not available for hormone receptor status on IHC results (Details are shown as Table S1 (a row named "Subtype)).

