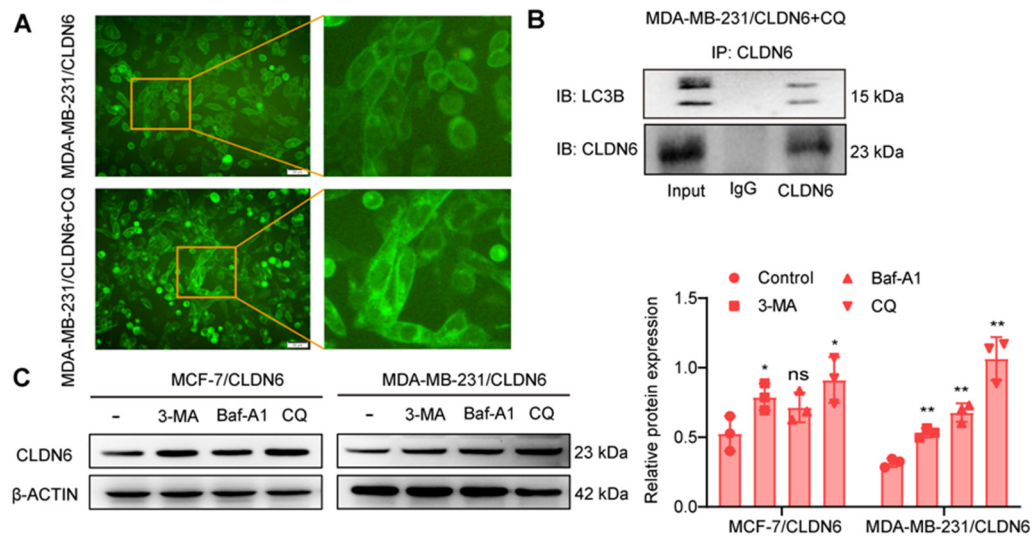


**Figure S1**



**Figure S1. Effects of CQ on CLDN6 localization, interaction with LC3B, and expression**

(A) The subcellular localization of CLDN6 before and after CQ action using fluorescence microscopy; (B) Co-IP to detect the interaction between CLDN6 and LC3B after CQ action; (C) Effect of autophagy inhibitors on the CLDN6 protein level in cells overexpressing CLDN6. (n=3). Scale bar, 50  $\mu$ m. \* $P$  < 0.05, \*\* $P$  < 0.01, ns, no significance.

Figure S2

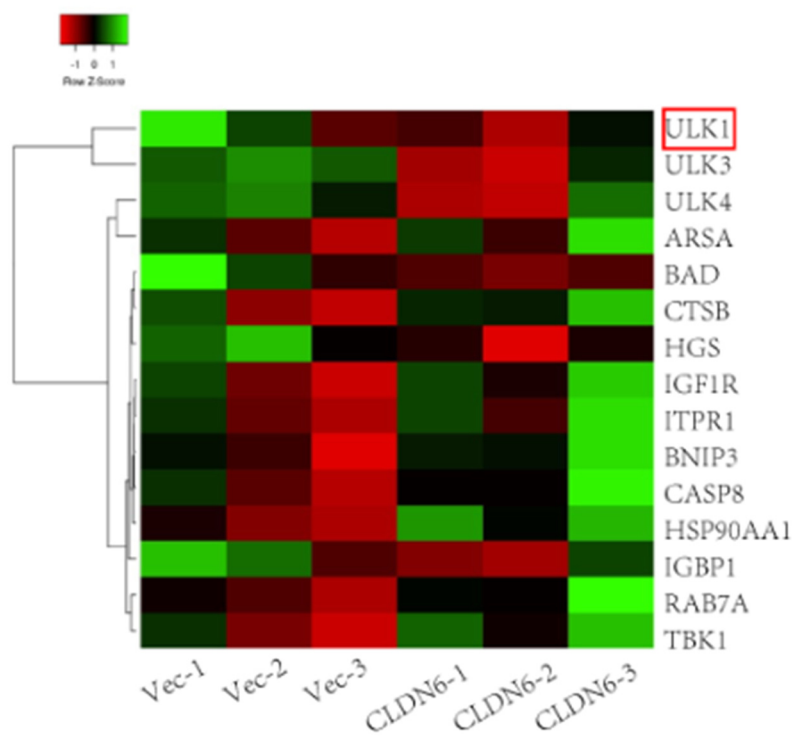
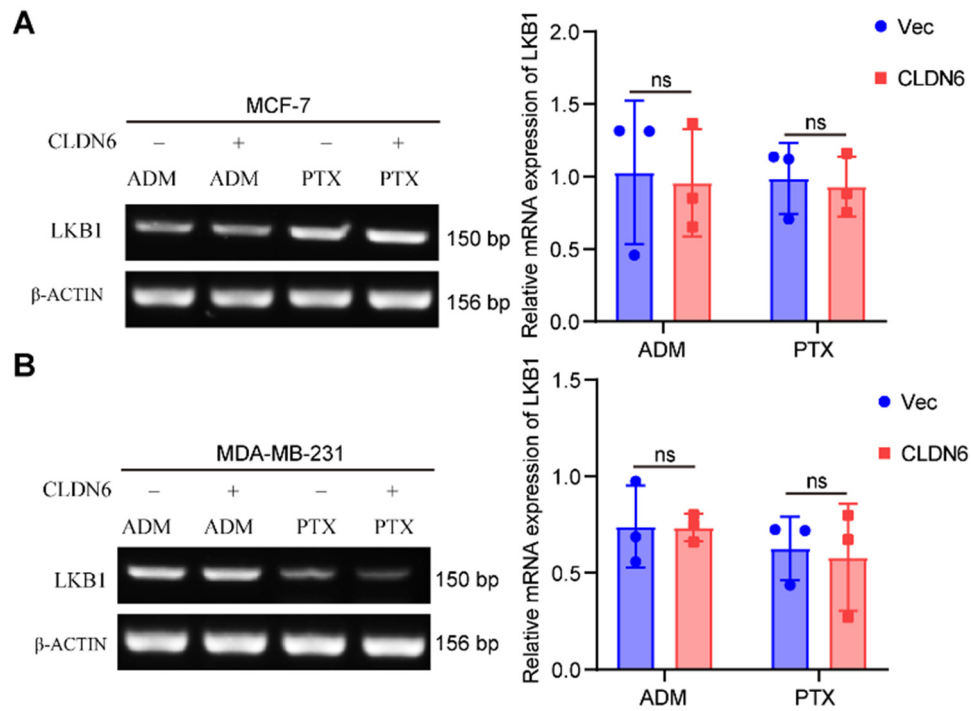


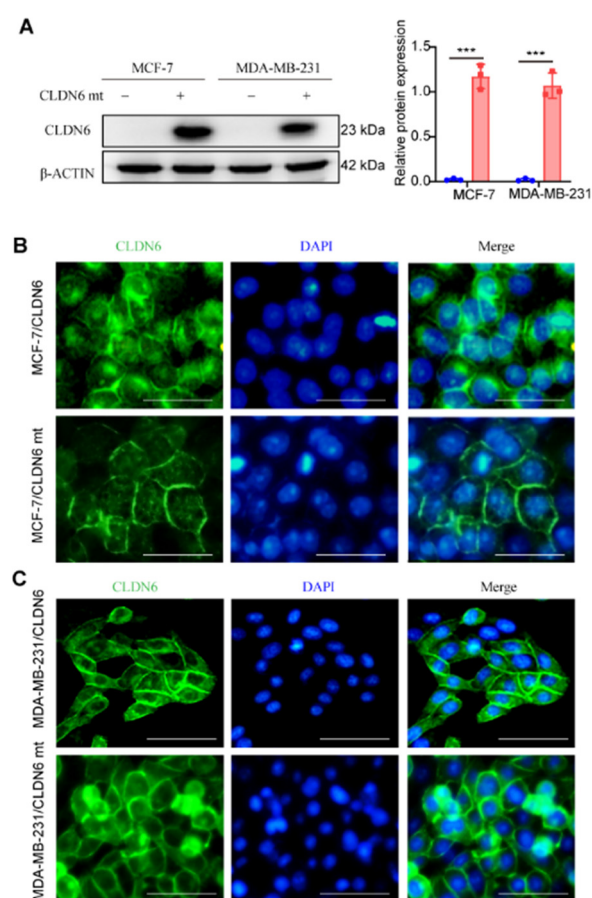
Figure S2. Heatmap of autophagy-related differential genes in MCF-7/CLDN6 cells

**Figure S3**



**Figure S3. Effect of CLDN6 on mRNA expression of LKB1 under chemotherapy conditions**  
(A) RT-PCR to detect the effect of CLDN6 on mRNA expression of LKB1 in MCF-7 cells under ADM and PTX treatment; (B) RT-PCR to detect the effect of CLDN6 on mRNA expression of LKB1 in MDA-MB-231 cells under ADM and PTX treatment. (n=3). ns, no significance.

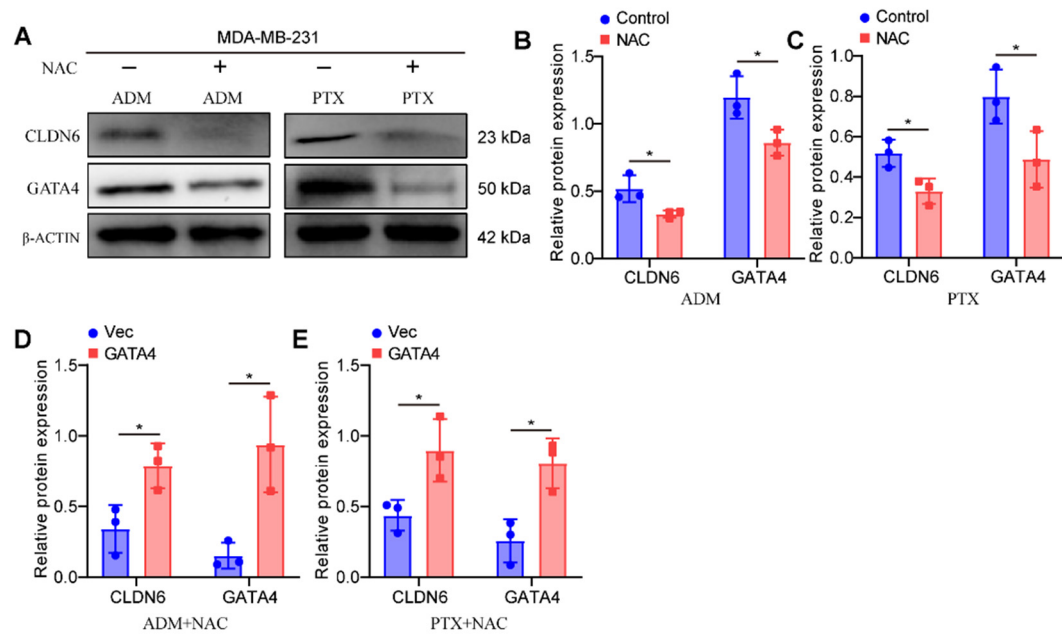
**Figure S4**



**Figure S4. Construction and characterization of breast cancer cells overexpressing CLDN6 mt**

(A) WB to detect the protein expression of CLDN6; (B) IF to detect the subcellular localization of CLDN6 and CLDN6 mt. (n=3). Scale bar, 50  $\mu$ m. \*\*\* $P < 0.001$ .

**Figure S5**



**Figure S5. Effect of NAC and GATA4 on the protein expression of CLDN6 and GATA4 under chemotherapeutic conditions**

(A-C) WB to detect the effect of NAC on the protein expression of CLDN6 and GATA4 under ADM and PTX; (D-E) WB statistics of the effect of GATA4 overexpression on the protein expression of CLDN6 and GATA4 under NAC and ADM or PTX. (n=3). \* $P < 0.05$ .

**TABLE S1** Details of the antibodies and reagents used in this study

Antibodies or reagents	Information
CLDN6	Santa Cruz Biotechnology Cat# sc-393671
AMPK	Santa Cruz Biotechnology Cat# sc-74461
LKB1	Santa Cruz Biotechnology Cat# sc-32245
GATA4	Proteintech Cat# 19530-1-AP
$\beta$ -ACTIN	Proteintech Cat# 66009-1-Ig
p62	Proteintech Cat# 18420-1-AP
p-ULK1	Cell Signaling Technology Cat# 5869
p-AMPK	Cell Signaling Technology Cat# 50081
ULK1	Affinity Biosciences Cat# DF7588
NAC	Selleck
ADM	Selleck
PTX	Selleck
CQ	MCE
3-MA	MCE
Baf-A1	MCE
CHX	MCE

**TABLE S2** The primers used in RT-PCR

<b><i>Genes</i></b>	<b>Primer Sequence</b>
<i>β-ACTIN</i>	5'-TCATGAAGTGTGACGTGGACATC-3'
	5'-CAGGAGGAGCAATGATCTTGATCT-3'
<i>CLDN6</i>	5'-TTCATCGGCAACAGCATCGT-3'
	5'-GGTTATAGAAGTCCCGGATGA-3'
<i>GATA4</i>	5'-GACTTCTCAGAAGGCAGAGAGTG-3'
	5'-GATGCCGTTTCATCTTGTGGTAGA-3'
<i>LKB1</i>	5'-GCTGGTGGATGTGTTATACAACG-3'
	5'-TCAATCAGCTGACAGAAGTACCC-3'
<i>CLDN6(ChIP)</i>	5'-CCTGGGTGACACAGTGAAAATA-3'
	5'-CGTTTCCTACTCTGCAAAATGGAG-3'