

**Supplementary Table 1** Primers for qRT-PCR

|                 |                         |
|-----------------|-------------------------|
| <b>ZNF367-F</b> | TGTGTGACTATCCAGACTGTGG  |
| <b>ZNF367-R</b> | TGCATGGGTGAATCTGCTCAG   |
| <b>KIF15-F</b>  | AGGAATCTGTATTCGCAACTGTG |
| <b>KIF15-R</b>  | ACTTCGTGGGATTACTCCTCTC  |
| <b>GAPDH-F</b>  | GGAGCGAGATCCCTCCAAAAT   |
| <b>GAPDH-R</b>  | GGCTGTTGTCATACTTCTCATGG |

**Supplementary Table 2** Information of utilized antibodies

| <b>Antibody</b>     | <b>Dilution</b> | <b>Manufacturer</b>       | <b>Cat No.</b> |
|---------------------|-----------------|---------------------------|----------------|
| <b>KIF15</b>        | 1:1000          | Proteintech(Wuhan, China) | 55407-1-AP,    |
| <b>ZNF367</b>       | 1:2000          | Abcam(Cambridge, MA, US)  | ab108141       |
| <b>beta-tubulin</b> | 1:25000         | Proteintech(Wuhan, China) | 66240-1-Ig     |
| <b>CDK2</b>         | 1:1000          | Proteintech(Wuhan, China) | 10122-1-Ap     |
| <b>CyclinE1</b>     | 1:1000          | Proteintech(Wuhan, China) | 11554-1-Ap     |
| <b>CyclinE2</b>     | 1:500           | Proteintech(Wuhan, China) | 11935-1-Ap     |

**Supplementary Table 3** Sequence for siRNAs and shRNAs

|                    |                       |
|--------------------|-----------------------|
| <b>si-KIF15-1</b>  | CAGCCAUAUUUGCAAUUGU   |
| <b>si-KIF15-2</b>  | GUGCCCUUUACAACAAAGA   |
| <b>si-ZNF367-1</b> | GCACCUUAUUUGCUUAUCA   |
| <b>si-ZNF367-2</b> | GCGAGGUUUUGGGAAAUGA   |
| <b>si-CDK2-1</b>   | GGAGCUUGUUAUCGCAAU    |
| <b>si-CDK2-2</b>   | GCCGUACCAAUCUCUGAAU   |
| <b>sh-ZNF367</b>   | GGACACACTCAGCAAACATCA |

**Supplementary Table 4** Information of Sequence of Promoter of KIF15 and ZNF367**Sequence of KIF15 promoter:**

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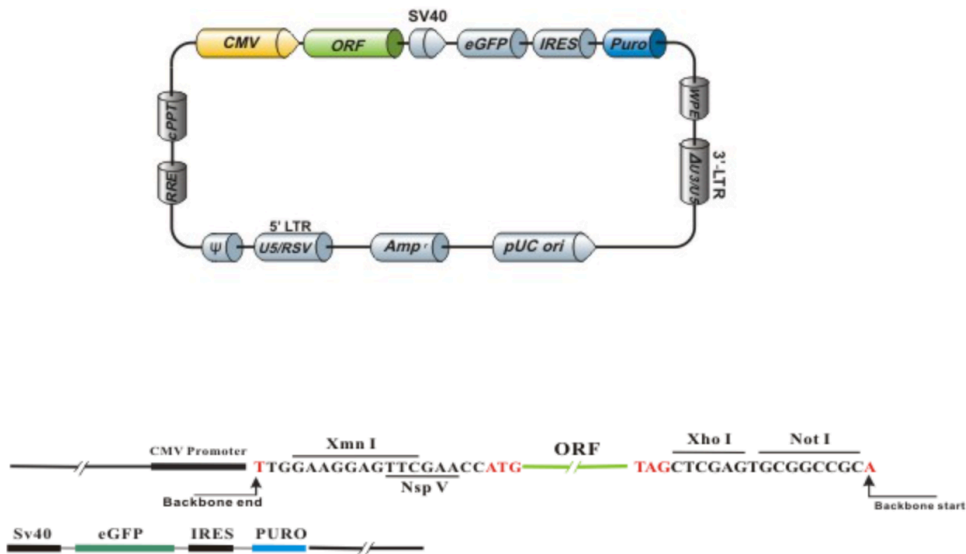
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**Sequence of ZNF367:**

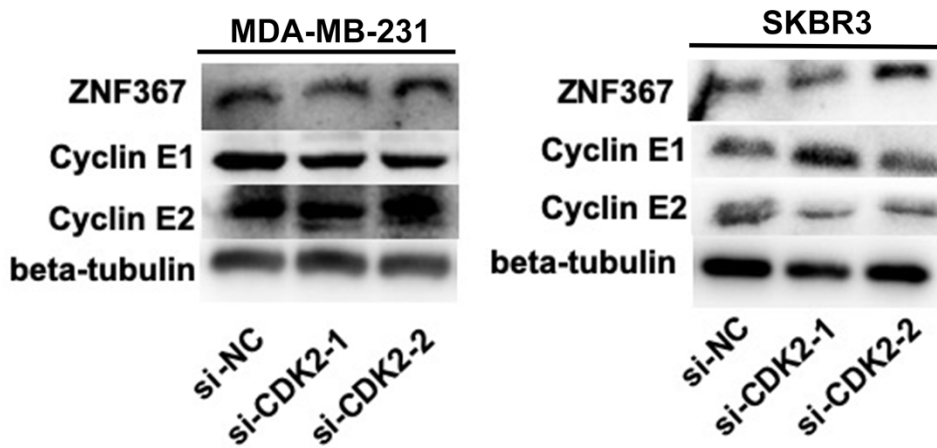
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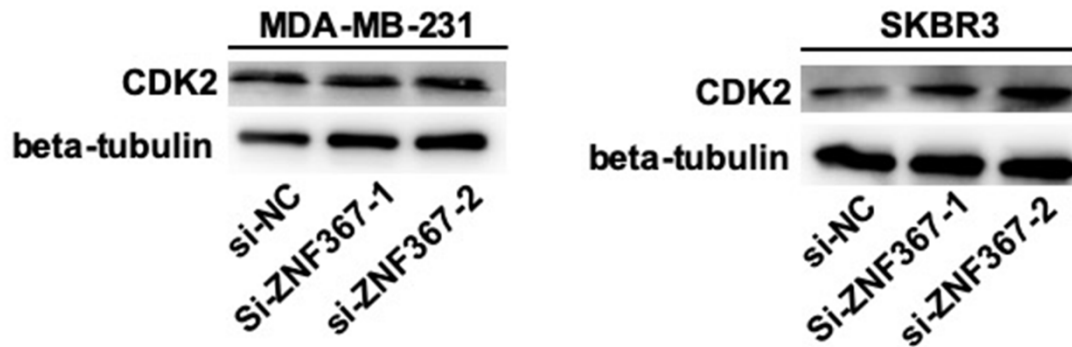




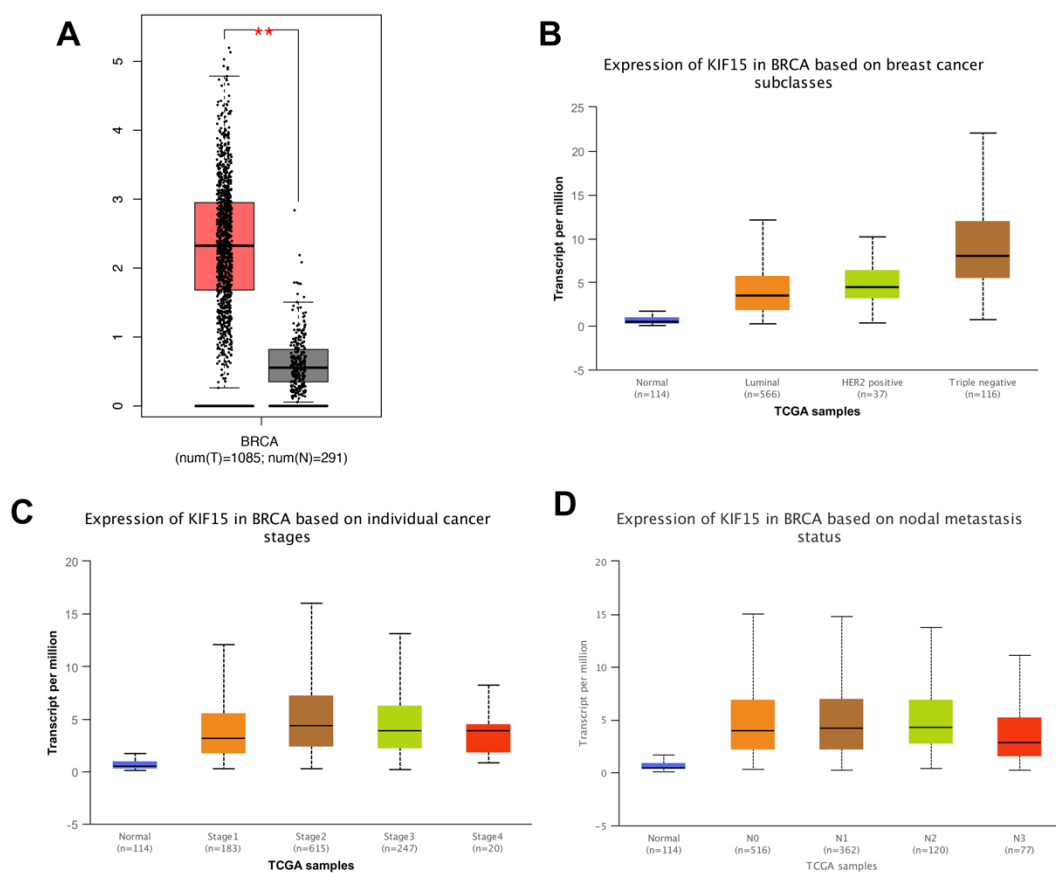
**Supplementary Fig. 2** Vector information for KIF15 overexpressed plasmid



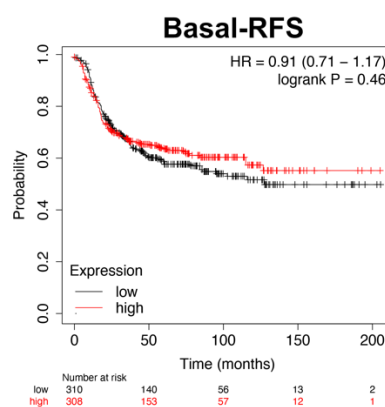
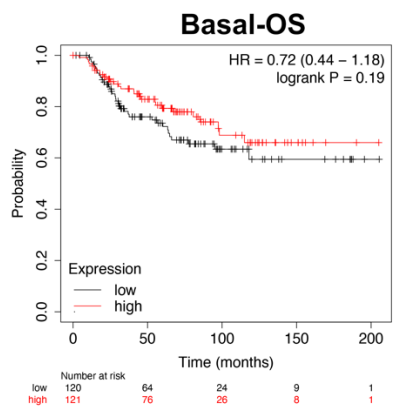
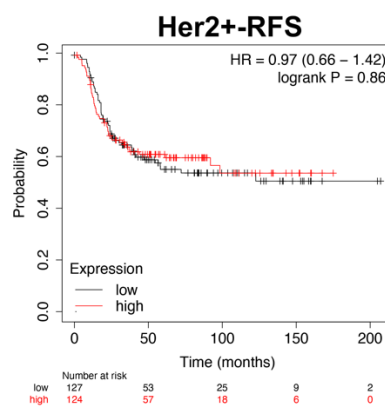
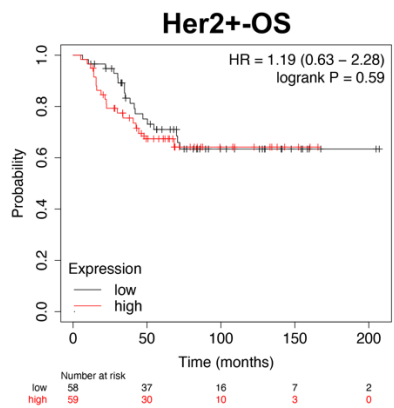
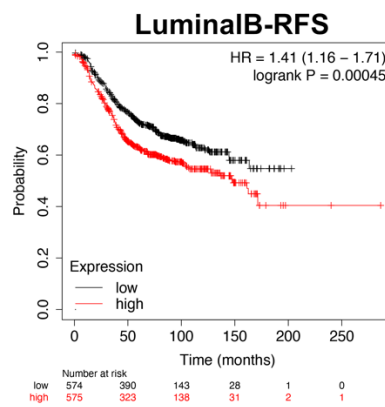
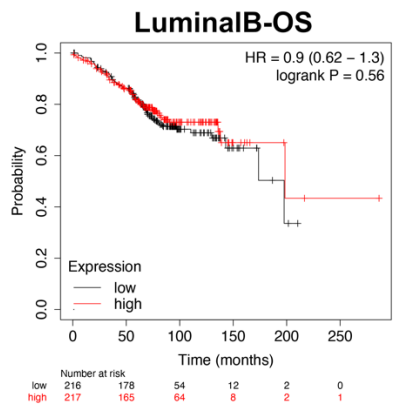
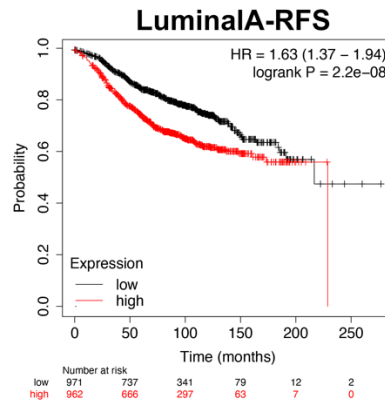
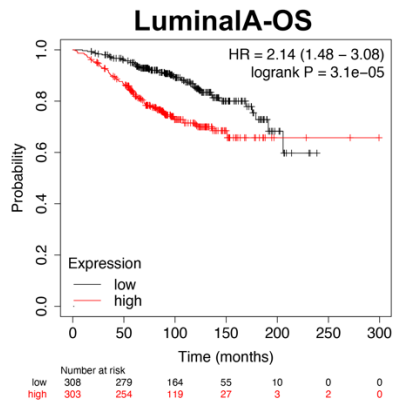
**Supplementary Fig. 3** Detection of expression of ZNF367, Cyclin E1, Cyclin E2 by Western blotting assay in the MDA-MB-231 and SKBR3 cell lines after the downregulation of the expression of CDK2.



**Supplementary Fig. 4.** Detection of expression of CDK2 by Western blotting assay in the MDA-MB-231 and SKBR3 cell lines after downregulation of the expression of ZNF367.



**Supplementary Fig. 5** Expression information about KIF15 according to the online database. (A) Expression of KIF15 in BC tissues and normal tissues. (B) Expression of KIF15 in breast cancer subclasses. (C) Expression of KIF15 in individual cancer stages of breast cancer. (D) Expression of KIF15 in different nodal metastasis status of breast cancer.



**Supplementary Fig. 6** The overall survival rate as well as the relapse free survival rate of breast cancer patients with different level of KIF15 were analyzed.