Additional file 1:Table S1 GABARAP protein expression levels in different pathological types.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Staining Intensity |   | Total |  P value\* |
|  |  | negative（%） | positive（%） |   |  |
| Non-tumor tissue |  | 8 （33.33） | 16（66.67） | 24 | 0.006 |
| DCIS |   | 31（64.58） | 17（35.42） | 48 |  |
| IDC |  | 60（68.97） | 27（31.03） | 87 |  |

Additional file 2: Table S2 Correlations between GABARAP with clinicopathologic features in 87 breast cancer patients

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | NO | GABARAP expression | P value |
|  | (n=87) | Negative(%) | Positive(%) |  |
| Age |   |  |  |  |
| ≤35 | 6 | 2(33.3) | 4(66.7) | >0.99 |
| >35 | 81 | 23(28.4) | 58(71.6) |  |
| Tumor size |  |  |  |  |
| <2 | 14 | 2(14.3) | 12(85.7) | 0.025 |
| 2-5 | 68 | 28(41.2) | 40(58.8) |  |
| >5 | 5 | 4(80.0) | 1(20.0) |  |
| LNM |  |  |  |  |
| Negative | 51 | 8(15.7) | 43(84.3) | 0.023 |
| Positive | 36 | 14(38.9) | 22(61.1) |  |
| TNM stage |  |  |  |  |
| I | 7 | 1(14.3) | 6(85.7) | 0.001 |
| II | 64 | 21(32.8) | 43(67.2) |  |
| IIIHistological grade I; IIIII | 164245  | 13(81.3) 15(35.7)28(62.3) | 3(18.7)27(64.3)17(37.7) | 0.019 |
| ER status |  |  |  |  |
| Negative | 28 | 11(39.3) | 17(60.7) | 0.039 |
| Positive | 59 | 11(18.6) | 48(81.4) |  |
| PR status |  |  |  |  |
| Negative | 38 | 13(34.2) | 25(65.8) | 0.092 |
| Positive | 49 | 9(18.4) | 40(81.6) |  |
| Her-2 status |  |  |  |  |
| Negative | 47 | 10(21.3) | 37(78.7) | 0.459 |
| Positive | 40 | 12(30.0) | 28(70.0) |  |
| Ki-67 status |  |  |  |  |
| Negative | 43 | 8(18.6) | 35(81.4) | 0.218 |
| Positive | 44 | 14(31.8) | 30(68.2) |  |
| P53 status |  |  |  |  |
| Negative | 60 | 17(28.3) | 43(71.7) | 0.330 |
| Positive | 27 | 5(18.5 | 22(81.5) |  |

Additional file 3: Fig S1

Fig.1 Downregulationg or upregulation of GABARAP did not activate the NF-κB and ERK/MAPK signaling pathways. a. Western blot analyses were used to detect the expression levels of p-IKK-β, IKK- β,p-IκBα, IκBα, p-ERK, ERK, p-MEK, MEK in T47D-vector, T47D-shRNA, 812-vector, 812- shRNA cells. b. Western blot analyses were used to detect the expression levels of p-IKK- β, IKK- β, p-IκBα, IκBα, p-ERK, ERK, p-MEK, MEK in 453-vector, 453-GABARAP cells.

