

Supplementary Tables

Supplementary Table 1

Tumor incidence and latency in MMTV-HA-14-3-3 ζ transgenic and wild type mice.

	No. of mice	Tumor incidence	Mean tumor latency
Wild type	20	0 (0%)	Not applicable
MMTV-HA-14-3-3 ζ	24	8 (33.3%)	662 \pm 75 (497~723 days)

Supplementary Table 2

Mammary tumor histology and latency in female MMTV-HA-14-3-3 ζ transgenic mice

Mice No	Mammary tumor histology	Lung Metastasis	Tumor latency (days)	Line
440	Invasive ductal carcinoma	-	720	MM2-833
1212	Invasive papillary carcinoma	-	631	MM2-833
772	Invasive ductal carcinoma	-	650	MM2-833
1268	Invasive carcinoma	-	712	MM3-20
1261	Invasive carcinoma	+	711	MM3-20
83	Invasive ductal carcinoma with metaplastic carcinoma	-	659	MM3-20
82	Invasive ductal carcinoma	-	497	MM3-20
1273	Invasive ductal carcinoma	-	723	MM3-20

Multiparous (3-4 pregnancies) MMTV-HA-14-3-3 ζ transgenic female mice (MM3-20 and MM2-833 lines) were analyzed for tumor histology, metastasis and latency.

Supplementary Table 3A

Tumor grade	14-3-3 ζ positive (%)
0	30 (15.8)
1+	31 (16.3)
2+	58 (30.5)
3+	71 (37.4)

Supplementary Table 3B

	Tumor grade				<i>p-value</i>
	0 (%)	1(%)	2(%)	3(%)	
<u>14-3-3ζ expression</u>					
0 / 1+	22 (81.5)	1 (2)	6 (10)	1 (2)	<0.001
2+ / 3+	5 (18.5)	46 (98)	54 (90)	55 (98)	

Supplementary Table 3C

	Tumor grade				<i>p-value</i>
	0 (%)	1(%)	2(%)	3(%)	
<u>ErbB2 expression</u>					
0 / 1+	24 (100)	31 (66)	37 (62)	38 (68)	<0.001
2+ / 3+	0 (0)	16 (34)	23 (38)	10 (32)	

Supplementary Table 3D

miR-221 correlation with 14-3-3 and Ki-67 expression in human TMA containing normal and breast tumor tissues.

Marker	miR-221 expression		<i>p-value</i>
	Low (%)	High (%)	
<u>14-3-3ζ expression</u>			
Low	50 (56.8)	38 (43.2)	<0.01
High	39 (38.2)	63 (61.8)	
<u>Ki-67 positive</u>			
Low	66 (74.2)	54 (53.5)	<0.01
High	23 (25.8)	47 (46.5)	

Supplementary Table 3 - TMA Analysis

3A, Percentage of 14-3-3 ζ positive patients by Tumor grade. 3B, Bivariate analysis of 14-3-3 ζ status versus grade. 3C, Bivariate analysis of ErbB2 status versus grade. 3D, Analysis of miR-221 association with 14-3-3 ζ and Ki-67. All data are number of cores and percent of positive staining in the corresponding group (%). *P* value was determined by Chi-square analysis. Scores are defined as follows: 14-3-3 ζ score low = 0, 1+, high = 2+, 3+; miR-221 score low = 0, high = 1+, 2+, 3+ and Ki-67 low = <20% positive, high = >20% positive.

Supplementary Table 4

Confusion matrix of SVM using the indicated markers of the 14-3-3 ζ /miR-221/p27/Ki-67 axis as the input variables (columns: records; rows: predictions)

Predicted Tumor Grade	Actual Tumor grade		
	Grade 0	Grade 1	Grade 2/3
<u>14-3-3ζ</u>			
Grade 0	4	1	4
Grade 1	2	1	3
Grade 2/3	0	6	16
<u>miR-221</u>			
Grade 0	0	1	5
Grade 1	2	4	12
Grade 2/3	4	3	6
<u>p27</u>			
Grade 0	1	1	6
Grade 1	2	4	9
Grade 2/3	3	3	8
<u>Ki-67</u>			
Grade 0	2	2	4
Grade 1	3	1	8
Grade 2/3	1	5	11
<u>14-3-3ζ / miR-221</u>			
Grade 0	3	1	2
Grade 1	1	1	4
Grade 2/3	2	6	17
<u>14-3-3ζ / miR-221 / p27</u>			
Grade 0	3	1	2
Grade 1	0	3	3
Grade 2/3	3	4	18
<u>14-3-3ζ/miR-221/p27/Ki-67</u>			
Grade 0	3	0	1
Grade 1	0	5	2
Grade 2/3	3	3	20