

Table S1: Clinicopathological characteristics in the final patient cohort (58 patients)

Characteristic		Number	percent
Age group	<i>≤ 50 years</i>	27	46.6%
	<i>>50 years</i>	31	53.4%
Histopathology	<i>IDC</i>	43	74.1%
	<i>ILC</i>	7	12.1%
	<i>Mixed</i>	4	6.9%
	<i>Others</i>	4	6.9%
Tumor size	<i>≤2cm</i>	11	20.8%
	<i>>2cm</i>	42	79.2%
	<i>Missing</i>	5	
T stage	<i>1</i>	11	20.8%
	<i>2</i>	32	60.4%
	<i>3</i>	8	15.1%
	<i>4</i>	2	3.8%
	<i>Missing</i>	5	
N stage	<i>0</i>	24	42.1%
	<i>1</i>	13	22.8%
	<i>2</i>	12	21.1%
	<i>3</i>	8	14.0%
	<i>Missing</i>	1	
SBR grade	<i>I</i>	7	12.3%
	<i>II</i>	41	50.9%
	<i>III</i>	21	36.8%
	<i>Missing</i>	1	
Type of surgery	<i>BCS</i>	23	39.7%
	<i>MRM</i>	35	60.3%
ER score	<i>0</i>	6	10.5%
	<i>+</i>	4	7.0%
	<i>++</i>	19	33.3%
	<i>+++</i>	28	49.1%
	<i>Missing</i>	1	
PR score	<i>0</i>	13	22.4%
	<i>+</i>	7	12.1%
	<i>++</i>	16	27.6%
	<i>+++</i>	22	37.9%
HER2 status	<i>Negative</i>	54	93.1%
	<i>Positive</i>	4	6.9%
Adjuvant Hormonal treatment	<i>No</i>	1	1.7%
	<i>Yes</i>	57	98.3%
Type of hormonal ttt	<i>TAM</i>	33	57.9%
	<i>AI/TAM</i>	24	42.1%
	<i>None</i>	1	
Adjuvant chemotherapy	<i>No</i>	17	29.3%
	<i>Yes</i>	41	70.7%
Type of chemo	<i>Anthra</i>	15	36.6%
	<i>Anthra+Taxane</i>	23	56.1%
	<i>Taxane only</i>	3	7.3%
	<i>None</i>	17	

Table S2: Correlation between Nuclear and cytoplasmic LKB1 expression and the clinicopathologic factors

Variable		Nucl LKB1 low No. (%) 11 (34.4)	Nucl LKB1 high No. (%) 21 (65.6)	P*	Cyt LKB1 low No. (%) 12 (37.5)	Cyt LKB1 high No. (%) 20 (62.5)	P*
Age (Yr)	-Mean (\pm SD)	54.2(\pm 12)	49.8 (\pm 11)	0.05 [†]	53.6 (\pm 13)	49.9 (\pm 14)	0.37 [†]
Age groups	- \leq 50y	2 (18.2)	11 (52.4)	0.06	3 (25)	10 (50)	0.16
	- >50y	9 (81.8)	10 (47.4)		9 (75)	10 (50)	
Menopausal status	-Pre	2 (18.2)	11 (52.4)	0.06	9 (75)	10 (50)	0.16
	-Post	9 (81.8)	10 (47.6)		3 (25)	10 (50)	
T. size	- \leq 2cm	0 (0)	6 (33.3)	0.05	0 (0)	6 (35.3)	0.03
	- >2cm	9 (100)	12 (66.7)		10 (100)	11 (64.7)	
N stage	-0	7 (63.6)	8 (40)	0.41	6 (50)	9 (47.4)	0.98
	-1	1 (9.1)	7 (35)		3 (25)	5 (26.3)	
	-2	2 (18.2)	4 (20)		2 (21.1)	4 (21.1)	
	-3	1 (9.1)	1 (5)		1 (8.3)	1 (5.3)	
SBR grade	-Gr 1	2 (18.2)	0 (0)	0.09	2 (16.7)	0 (0)	0.15
	-Gr 2	4 (36.4)	13 (61.9)		5 (41.7)	12 (60)	
	-Gr 3	5 (45.5)	8 (38.1)		5 (41.7)	8 (40)	
ER score	-0	4 (36.4)	1 (4.8)	0.08	3 (25)	2 (10)	0.41
	-1	0 (0)	2 (9.5)		0 (0)	2 (10)	
	-2	2 (18.2)	6 (28.6)		2 (16.7)	6 (30)	
	-3	5 (45.5)	12 (57.1)		7 (58.3)	10 (50)	
PR score	-0	7 (63.6)	3 (14.3)	0.002	6 (50)	4 (20)	0.36
	-1	0 (0)	4 (19)		1 (8.3)	3 (15)	
	-2	3 (27.3)	1 (4.8)		1 (8.3)	3 (15)	
	-3	1 (9.1)	13 (61.9)		4 (33.3)	10 (50)	
Her 2 status	-Negative	8 (72.7)	20 (95.2)	0.06	11 (91.7)	17 (85)	0.58
	-Over-expressed	3 (27.3)	1 (4.8)		1 (8.3)	3 (15)	
Adjuv. Hormonal ttt	-Tamoxifen	5 (50)	11 (52.4)	0.90 ^{††}	5 (41.7)	11 (57.9)	0.38 ^{††}
	-AI	5 (50)	10 (47.6)		7 (58.3)	8 (42.1)	
Adjuvant chemotherapy	-Anthracyclin	1 (12.5)	3 (30)	0.67	0 (0)	4 (30.8)	0.03 ^{††}
	-Anthra. + Taxane	6 (75)	6 (60)		3 (60)	9 (69.2)	
	-Others	1 (12.5)	1 (10)		2 (40)	0 (0)	

*Correlation by Fisher's exact test unless otherwise specified

[†] Difference between means by Student's T test

Table S3: Correlation between Nuclear and cytoplasmic pAKT expression with the clinicopathologic factors

Variable		Nucl. pAKT low No. (%) 12 (37.5)	Nucl. pAKT high No. (%) 20 (62.5)	P*	Cyt pAKT low No. (%) 10 (31.2)	Cyt pAKT high No. (%) 22 (68.8)	P*
Age (Yr)	-Mean (\pm SD)	49.4(\pm 15)	58.9(\pm 18)	0.48 [†]	53.6(\pm 15)	49.3(\pm 14)	0.27 [†]
Age groups	- \leq 50y	4 (33.3)	9 (45)	0.52	2 (20)	11 (50)	0.11
	- >50y	8 (66.7)	11 (55)		8 (80)	11 (50)	
Menopausal status	-Pre	4 (33.3)	9 (45)	0.52	2 (20)	11 (50)	0.11
	-Post	8 (66.7)	11 (55)		8 (80)	11 (50)	
T. size	- \leq 2cm	2 (18.2)	4 (25)	0.68	1 (11.1)	5 (27.8)	0.33
	- >2cm	9 (81.8)	12 (75)		8 (88.9)	13 (72.2)	
N stage	-0	6 (50)	9 (47.4)	0.78	3 (30)	12 (57.1)	0.52
	-1	2 (16.7)	6 (31.6)		3 (30)	5 (23.8)	
	-2	3 (25)	3 (15.8)		3 (30)	3 (14.3)	
	-3	1 (8.3)	1 (8.3)		1 (10)	1 (4.8)	
SBR grade	-Gr 1	0 (0)	2 (10)	0.43	1 (10)	1 (4.5)	0.28
	-Gr 2	6 (50)	11 (55)		7 (70)	10 (45.5)	
	-Gr 3	6 (50)	7 (35)		2 (20)	11 (50)	
ER score	-0	4 (33.3)	1 (5)	0.10	2 (20)	3 (13.6)	0.77
	-1	1 (8.3)	1 (5)		1 (10)	1 (4.5)	
	-2	3 (25)	5 (25)		3 (30)	5 (22.7)	
	-3	4 (33.3)	13 (65)		4 (40)	13 (59.1)	
PR score	-0	6 (50)	4 (20)	0.15	4 (40)	6 (27.3)	0.63
	-1	0 (0)	4 (20)		2 (20)	2 (9.1)	
	-2	1 (8.3)	3 (15)		1 (10)	3 (13.6)	
	-3	5 (41.7)	9 (45)		3 (30)	11 (50)	
Her 2 status	-Negative	10 (83.3)	18 (90)	0.58	9 (90)	19 (86.4)	0.77
	-Over-expressed	2 (16.7)	2 (10)		1 (10)	3 (13.6)	
Adjuv. Hormonal ttt	-Tamoxifen	6 (50)	10 (52.6)	0.88	4 (40)	12 (57.1)	0.37
	-AI	6 (50)	9 (47.4)		6 (60)	9 (42.9)	
Adjuvant chemotherapy	-Anthracyclin	2 (25)	2 (20)	0.95	1 (16.7)	3 (25)	0.83
	-Anthra. + Taxane	5 (62.5)	7 (70)		4 (66.7)	8 (66.7)	
	-Others	1 (12.5)	1 (10)		1 (16.7)	1 (8.3)	

*Correlation by Fisher's exact test unless otherwise specified

[†] Difference between means by Student's T test

Table S4: Correlation between pS6RP, p4EBP1 expression with the clinicopathologic factors

Variable		pS6RP low No. (%) 14 (42.4)	pS6RP high No. (%) 19 (57.6)	P*	P4EBP1 low No. (%) 19 (57.6)	P4EBP1 high No. (%) 14 (42.4)	P*
Age (Yr)	-Mean (\pm SD)	53.6(\pm 15)	46.5(\pm 14)	0.08 †	54.6(\pm 12)	47.3(\pm 14)	0.07 †
Age groups	- \leq 50y	3 (21.4)	10 (52.6)	0.07	4 (21.1)	9 (64.3)	0.01
	- >50y	11 (78.6)	9 (47.4)		15 (78.9)	5 (35.7)	
Menopausal status	-Pre	3 (21.4)	10 (52.6)	0.07	4 (21.1)	9 (64.3)	0.01
	-Post	11 (78.6)	9 (47.4)		15 (78.9)	5 (35.7)	
T. size	- \leq 2cm	2 (15.4)	4 (26.7)	0.47	2 (11.8)	4 (36.4)	0.12
	- >2cm	11 (84.6)	11 (73.3)		15 (88.2)	7 (63.6)	
N stage	-0	6 (42.9)	9 (50)	0.97	7 (36.8)	8 (61.5)	0.42
	-1	4 (28.6)	4 (22.2)		5 (26.3)	3 (23.1)	
	-2	3 (21.4)	4 (22.2)		5 (26.3)	2 (15.4)	
	-3	1 (7.1)	1 (5.6)		2 (10.5)	0 (0)	
SBR grade	-Gr 1	2 (14.3)	0 (0)	0.21	0 (0)	2 (14.3)	0.24
	-Gr 2	6 (42.9)	11 (57.9)		10 (52.6)	7 (50)	
	-Gr 3	6 (42.9)	8 (42.1)		9 (47.4)	5 (35.7)	
ER score	-0	4 (28.6)	2 (10.5)	0.14	5 (26.3)	1 (7.1)	0.57
	-1	2 (14.3)	0 (0)		1 (5.3)	1 (7.1)	
	-2	3 (21.4)	5 (26.3)		4 (21.1)	4 (28.6)	
	-3	5 (35.7)	12 (63.2)		9 (47.4)	8 (57.1)	
PR score	-0	8 (57.1)	3 (15.8)	0.06	8 (42.1)	3 (21.4)	0.67
	-1	1 (7.1)	3 (15.8)		2 (10.5)	2 (14.3)	
	-2	2 (14.3)	2 (10.5)		2 (10.5)	2 (14.3)	
	-3	3 (21.4)	11 (57.9)		7 (36.8)	7 (50)	
Her 2 status	-Negative	13 (92.9)	16 (84.2)	0.45	17 (89.5)	12 (85.7)	0.74
	-Over-expressed	1 (7.1)	3 (15.8)		2 (10.5)	2 (14.3)	
Adjuv. Hormonal ttt	-Tamoxifen	7 (50)	10 (55.6)	0.76	8 (42.1)	9 (69.2)	0.13
	-AI	7 (50)	8 (44.4)		11 (57.9)	4 (30.8)	
Adjuvant chemotherapy	-Anthracyclin	1 (10)	3 (33.3)	0.22	2 (15.4)	2 (33.3)	0.46
	-Anthra. + Taxane	7 (70)	6 (66.7)		9 (69.2)	4 (66.7)	
	-Others	2 (20)	0 (0)		2 (15.4)	0 (0)	

*Correlation by Fisher's exact test unless otherwise specified

† Difference between means by Student's T test