

BRCA1 inhibits AR–mediated proliferation of breast cancer cells through the activation of SIRT1

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Figure Legends

Figure S1. Expression of SIRT1, mTOR and Skp2 in human breast cancers. (A) Relative levels of mTOR and Skp2 mRNA in 62 breast cancers with no BRCA1 mutation compared with 20 breast cancers with a BRCA1 mutation. (B) Relative levels of SIRT1 and Skp2 mRNA in 97 breast cancer tissue samples with no BRCA1 mutation and 18 breast cancer tissue samples with a BRCA1 mutation. Data analyzed using Oncomine (www.oncomine.org) from original published data (Waddell et al., 2010) (A), and (van 't Veer et al., 2002) (B).

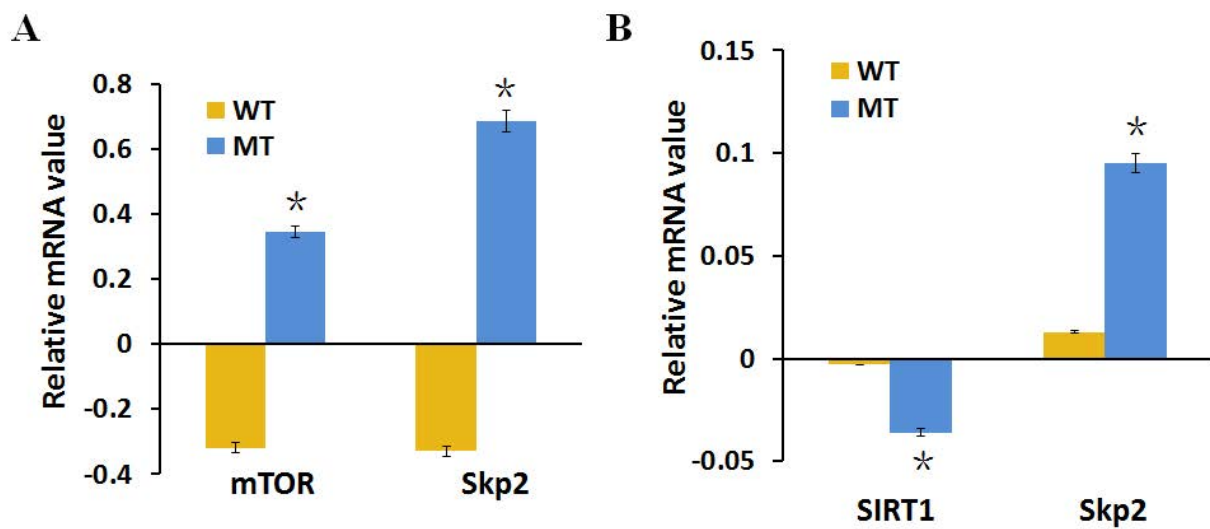


Table S1: Relationship between expression of BRCA1, AR, SIRT1 and clinicopathologic characteristics of breast cancer patients

Variables	BRCA1 high (n=97)		BRCA1 low (n=52)		P-value	AR high (n=67)		AR low (n=82)		P-value	SIRT1 high (n=68)		SIRT1 low (n=81)		P-value
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
	Age						0.952						0.120		
≤57 years	49	50.5	26	50.0		29	43.3	46	56.1		27	39.7	48	59.3	
>57 years	48	49.5	26	50.0		38	56.7	36	43.9		41	60.3	33	40.7	
T stage					0.442					0.562					0.292
T1	22	22.7	16	30.8		16	23.9	22	26.8		15	22.1	23	28.4	
T2	58	59.8	31	59.6		42	62.7	47	57.3		45	66.2	44	54.3	
T3	12	12.4	3	5.8		5	7.5	10	12.2		5	7.4	10	12.3	
T4	1	1.0	1	1.9		0	0	2	2.4		0	0	2	2.5	
NA*	4	4.1	1	1.9		4	6.0	1	1.2		3	4.4	2	2.5	
N stage					0.168					0.867					0.003*
N0	51	52.6	27	51.9		34	50.7	44	53.7		43	63.2	35	43.2	
N1	27	27.8	10	19.2		18	26.9	19	23.2		17	25.0	20	24.7	
N2	12	12.4	7	13.5		7	10.4	12	14.6		5	7.4	14	17.3	
N3	5	5.2	8	15.4		6	9.0	7	8.5		1	1.5	12	14.8	
NA*	2	2.1	0	0		2	3.0	0	0		2	2.9	0	0	

*NA: Not Available; All patients were M0 stage.

Table S2: Correlative analysis of the AR expression with BRCA1 at tumor microarray

	Tumor microarray (n=149)	
	BRCA1(Positive)	BRCA1(Negative)
AR (Positive)	36	31
AR (Negative)	61	21
<i>r</i>		-0.216
<i>P</i>		0.008

Table S3: Correlative analysis of the SIRT1 expression with BRCA1 at tumor microarray

	Tumor microarray (n=149)	
	BRCA1(Positive)	BRCA1(Negative)
SIRT1 (Positive)	63	5
SIRT1 (Negative)	34	47
<i>r</i>		0.530
<i>P</i>		< 0.001

Supplementary Table S4: Target sequences for siRNA

Gene	Target sequences
siSIRT1-1	5'- GATGAAGTTGACCTCCTCA-3'
siSIRT1-2	5'- CTTGTACGACGAAGACGA-3'
siBRCA1-1	5'- AAGCTCCTCTCACTCTTCAGT-3'
siBRCA1-2	5'- CAGCTACCCTTCCATCATA-3'