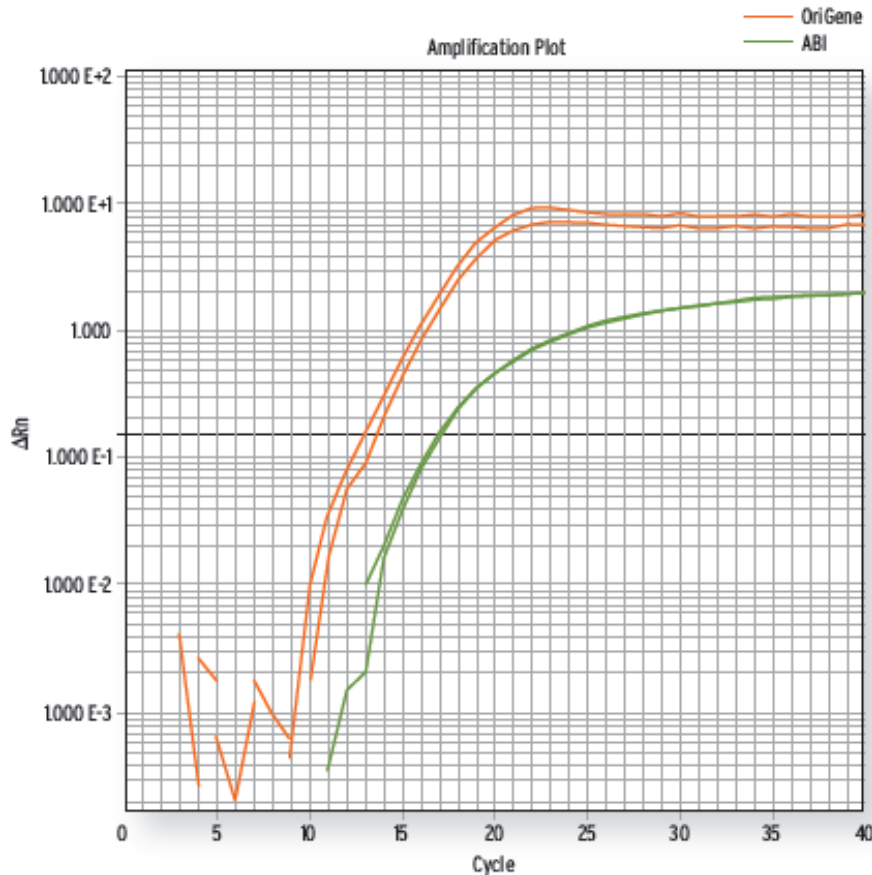


# qSTAR Gene Expression Products Validation Data

# qSTAR SYBR Green Master Mix



qPCR reactions using qSTAR SYBR Master Mix or a leading brand SYBR master mix were performed simultaneously on an ABI7900HT. The amplification plot indicates that qSTAR master mix generates smaller Ct values than those obtained by a leading brand.

# OriGene SYBR Master Mix is 10-Fold More Sensitive Than ABI SYBR Master Mix



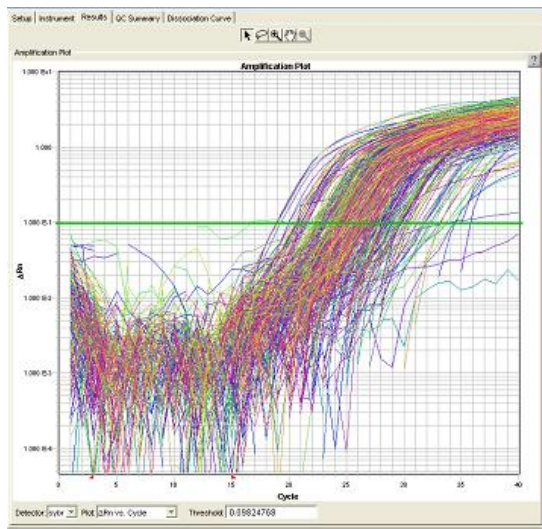
Ct - OriGene	Ct - ABI	Difference in Ct Value
31.262894	Undetermined	#VALUE!
36.556965	Undetermined	#VALUE!
31.156935	Undetermined	#VALUE!
34.347454	Undetermined	#VALUE!
26.090622	Undetermined	#VALUE!
31.23233	Undetermined	#VALUE!
28.89491	Undetermined	#VALUE!
32.469826	Undetermined	#VALUE!
28.417463	Undetermined	#VALUE!
32.1346	Undetermined	#VALUE!
31.529648	Undetermined	#VALUE!
32.58375	Undetermined	#VALUE!
27.58099	39.840042	12.259052
28.172306	39.252316	11.08001
28.151514	38.61969	10.468176
27.195467	37.887104	10.691637
32.928783	37.49275	4.563967
33.652435	37.4879	3.835465
30.053236	37.284203	7.230967
33.464928	35.2849	1.819972
30.517828	34.071106	3.553278

Ct - OriGene	Ct - ABI	Difference in Ct Value
30.536707	33.736317	3.19961
30.618603	33.413536	2.794933
31.39491	33.272484	1.877574
29.656137	32.967926	3.311789
30.892546	32.85909	1.966544
26.972433	32.77202	5.799587
31.115774	32.681313	1.565539
27.74726	32.57176	4.8245
28.437485	32.384823	3.947338
27.205393	32.01429	4.808897
30.114294	31.810152	1.695858
29.032686	31.682777	2.650091
29.188377	31.679024	2.490647
17.085419	31.620302	14.534883
30.083187	31.23045	1.147263
27.792887	31.146557	3.35367
27.365213	31.128374	3.763161
29.323704	30.79467	1.470966
29.18022	30.57769	1.39747
26.834625	30.457418	3.622793
29.780708	30.438864	0.658156

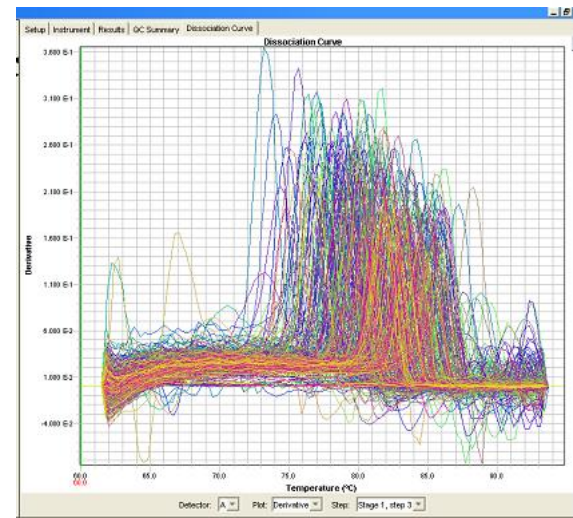
1. 42 “low expressing” genes were analyzed with OriGene qSTAR SYBR Master Mix and with ABI SYBR Master Mix.
2. 12 genes were detected with OriGene SYBR Master Mix, but were “undetermined” with ABI SYBR Master Mix.
3. For the other 30 genes, average Ct value with OriGene Master Mix is 4.56 lower than average Ct value with ABI Master Mix.

# qSTAR qPCR Primer Pairs

## A. qPCR Test

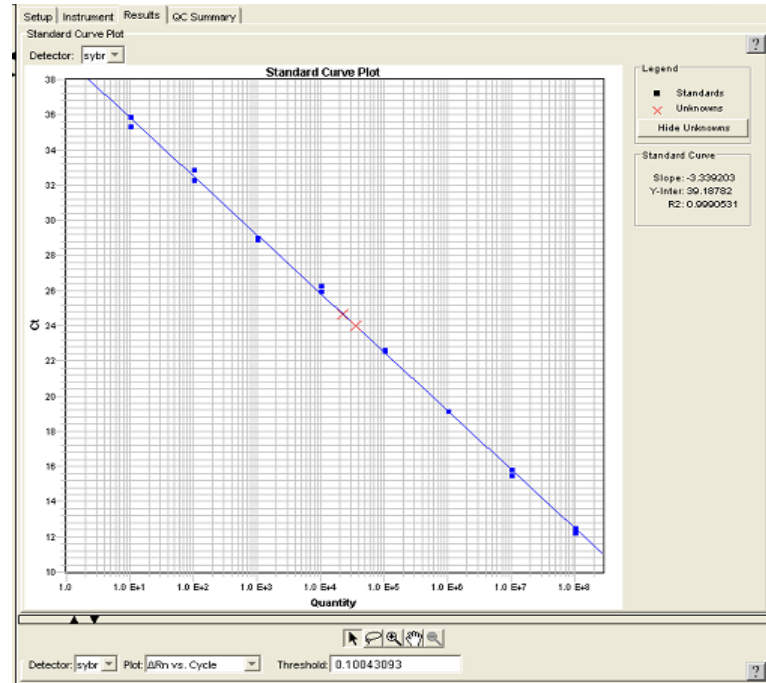
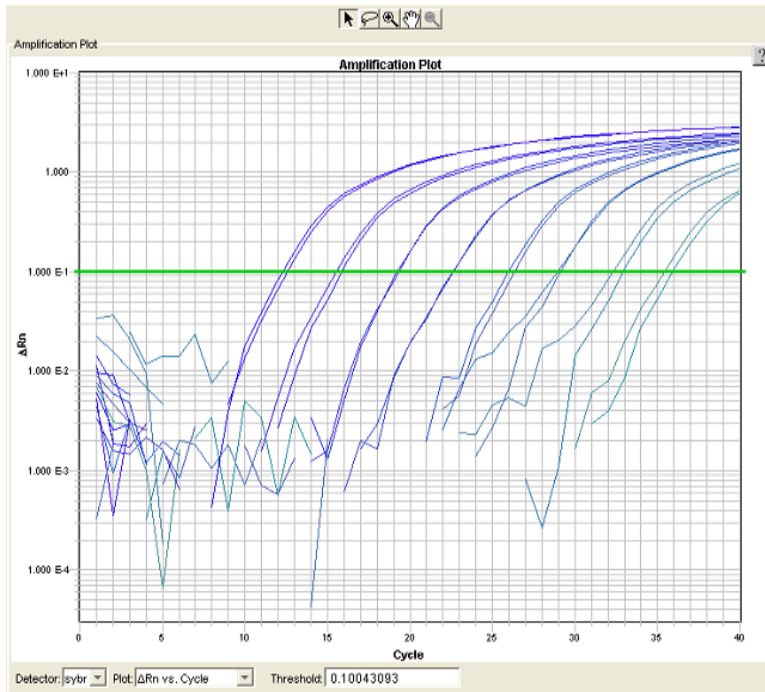


## B. Dissociation Test



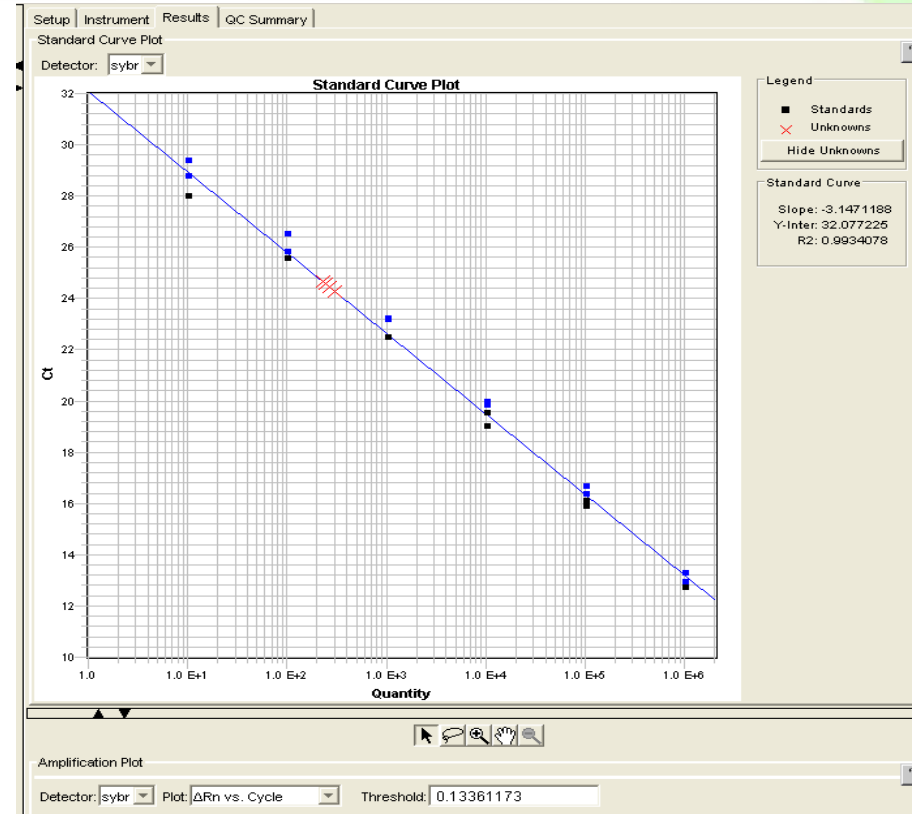
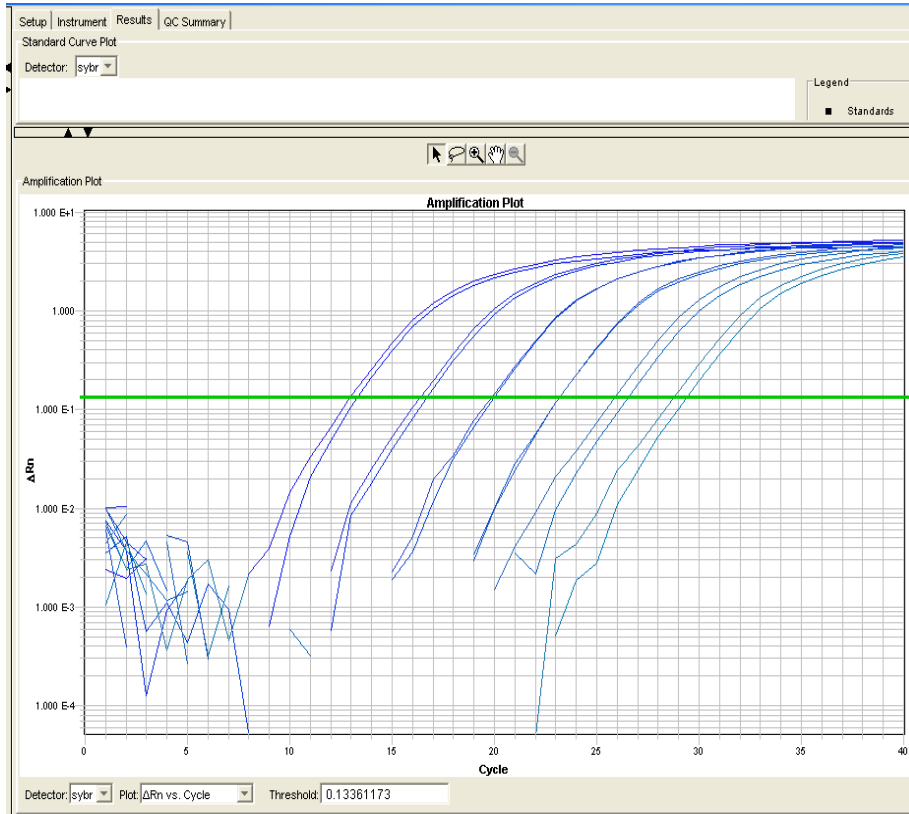
384 qSTAR qPCR Primer Pairs were tested in SYBR qPCR and dissociation test. A mixture of breast cancer cDNAs were used as templates. The qPCR was run on ABI 7900HT qPCR machine. From the results, over 90% of the primer pairs generated a measurable expression, and less than 8% of primers have primer dimer formation. Primer pairs failed in primer dimer test are re-designed and tested till a satisfactory result is obtained.

# qSTAR qPCR Template Standard



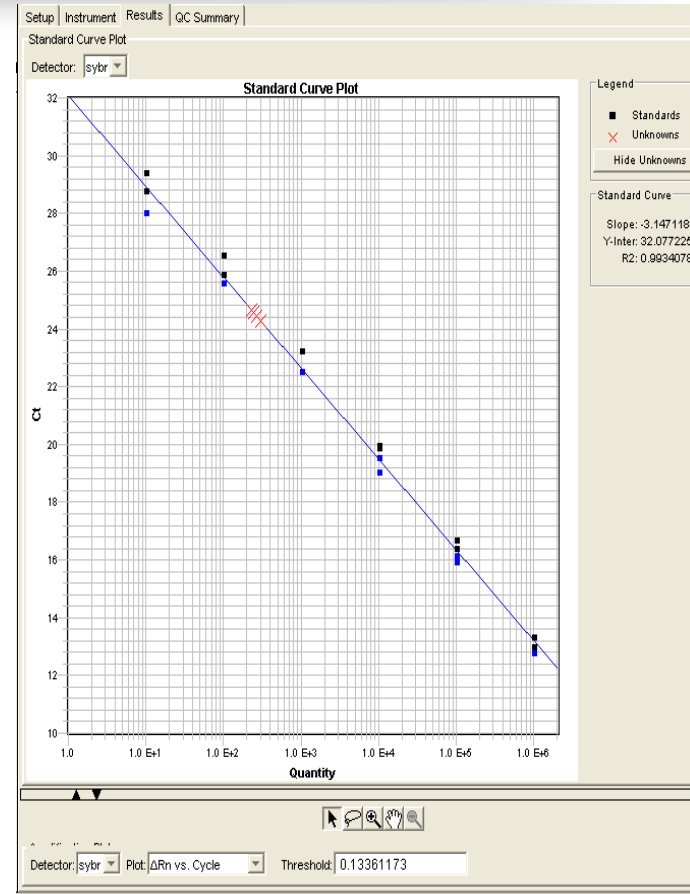
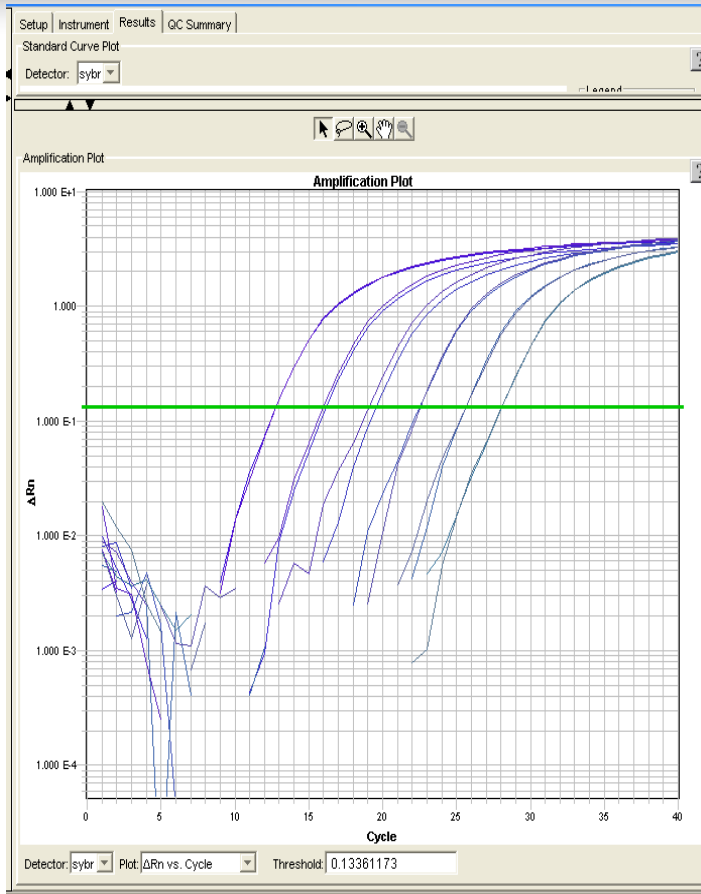
The qPCR primer and template standard for human cathepsin S (NM\_004079) was used to determine the copy number of the transcript in a breast cancer RNA sample. The SYBR qPCR was performed on ABI 7900HT and analyzed using the machine software. Based on standard curve from the template standard, the unknown sample was determined to contain 278 copy/ul of human cathepsin S.

# qSTAR qPCR Template Standard



The qPCR primer and template standard for human SDHA (NM\_004168) was used to determine the copy number of the transcript in a breast cancer RNA sample. The SYBR qPCR was performed on ABI 7900HT and analyzed using the machine software.

# qSTAR qPCR Template Standard



The qPCR primer and template standard for human ASNA1 (NM\_004307) was used to determine the copy number of the transcript in a breast cancer RNA sample. The SYBR qPCR was performed on ABI 7900HT and analyzed using the machine software.

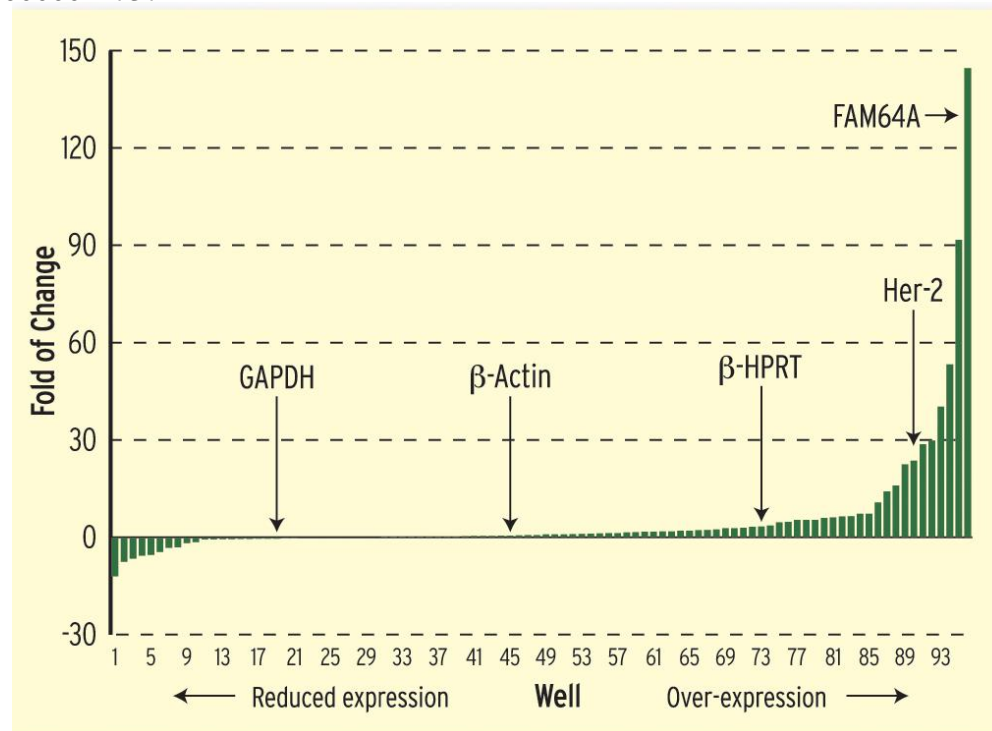
# qSTAR qPCR Primer Panels

## Breast Cancer Panel I

### Normal Tissue versus Cancer Tissue (her2 IHC positive)

Normal ID: RN0000382D CU0000005301

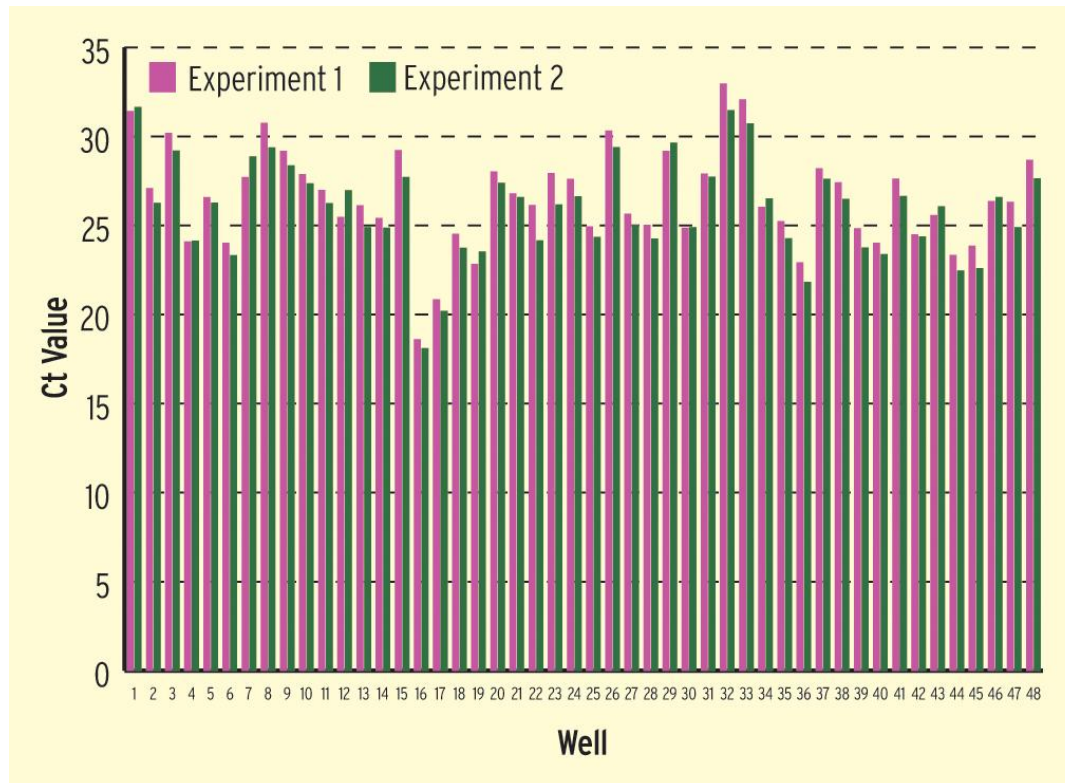
Cancer ID: RN0000320A CU0000011737



Breast cancer qPCR Primer Panel I was used to profile a normal cDNA and a cancer cDNA in two separate experiments. The expression of each gene in the panel was compared and plotted by fold change.

# qSTAR qPCR Primer Panels

## Breast Cancer Panel I—Reproducibility Test



Breast cancer qPCR primer panel I was used to profile a cancer cDNA in two separate and identical experiments. The two sets of Ct values are plotted.