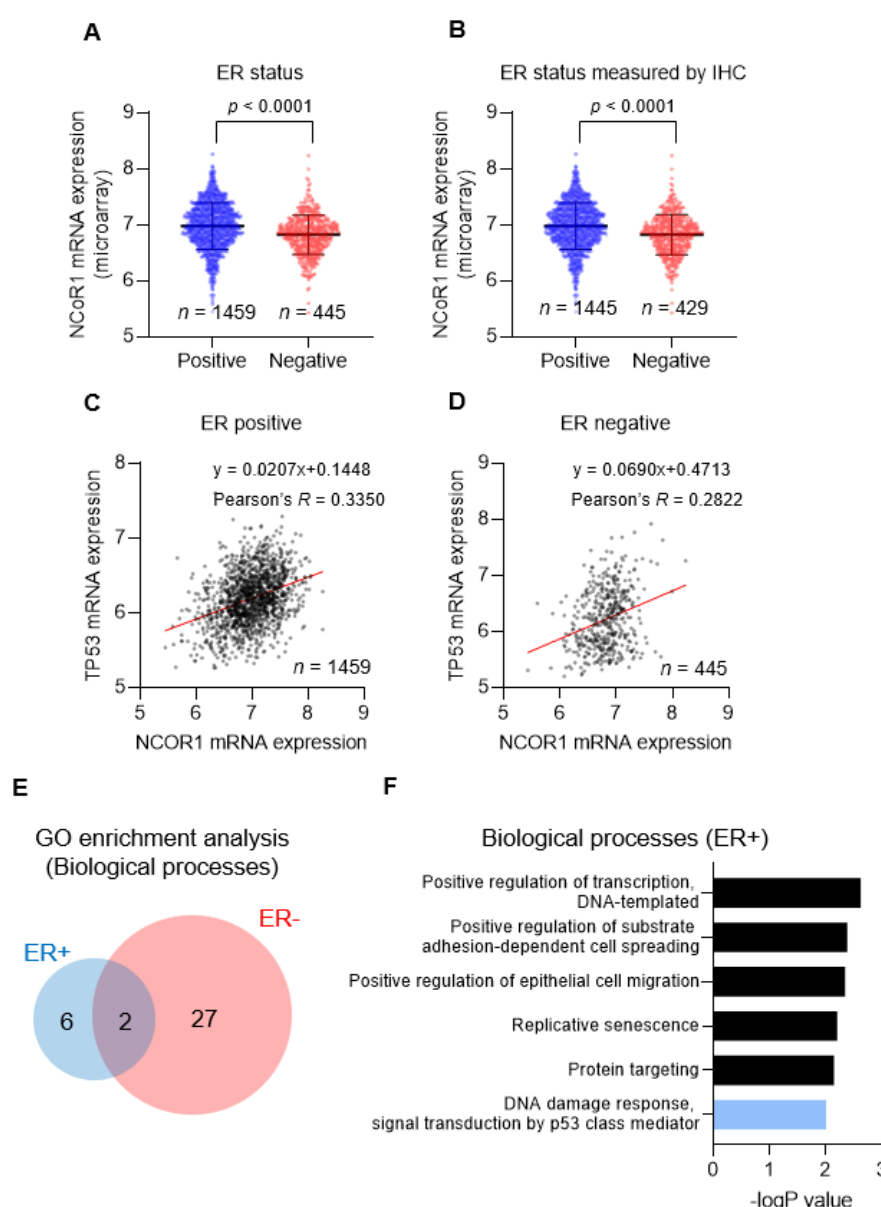


# Supplementary Materials: TNF $\alpha$ Enhances Tamoxifen Sensitivity through Dissociation of ER $\alpha$ -p53-NCOR1 Complexes in ER $\alpha$ -Positive Breast Cancer

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**Figure S1.** Analysis of the association between NCOR1 and P53 in ER+ breast cancer. The association between NCOR1 and P53 signaling in ER+ breast cancer. The transcriptome data of breast cancer cohort from The Cancer Genome Atlas (TCGA) ( $n = 1,904$ ) was analyzed. (A, B) *Ncor1* mRNA levels in ER positive or ER negative breast cancer. ER status was measured by RNA-Seq (A) or IHC (B). (C, D) The correlation between *Ncor1* and *Tp53* mRNA expressions in ER positive (C) or ER negative breast cancer (D). Venn diagram for the biological processes enriched in ER+ and/or ER- breast tumors. (E) The biological processes enriched only in ER+ breast tumor.

**Table S1.** Antibodies used for WB and ChIP assays.

Antibodies	Vendor Cat no.	Local	Country	Titer	Usage
$\alpha$ H3K9ac	Merck 06-942	Darmstadt	Germany	(1:100)	W. B (ChIP)
$\alpha$ H3K4me3	Merck 05-1339	Darmstadt	Germany	(1:100)	
$\alpha$ H3K9me3	Merck 05-1250	Darmstadt	Germany	(1:100)	
$\alpha$ ER $\alpha$	Santa Cruz Biotechnol- ogy SC-543	Dallas, Texas	USA	1:1000 (1:100)	
$\alpha$ p53	Santa Cruz Biotechnol- ogy SC-126	Dallas, Texas	USA	1:1000 (1:100)	
$\alpha$ p-p53	Abcam ab134190	Cambridge	UK	1:1000	W.B
$\alpha$ NCoR	ATGEN	Seongnam, Gyeonggido	Korea	1:1000	
$\alpha$ p-NCoR	ATGEN	Seongnam, Gyeonggido	Korea	1:1000	
PARP-1	Cell signaling 9542S	Danvers, MA	USA	1:1000	
Bax	Cell signaling 5023S	Danvers, MA	USA	1:1000	
Bcl-2	Santa Cruz Biotechnol- ogy SC-492	Dallas, Texas	USA	1:1000	
$\alpha$ $\beta$ -Actin	Sigma-Aldrich A5441	Saint Louis, MO	USA	1:10000	

Abbreviation:  $\alpha$ H3K9ac, anti-H3K9 acetylation;  $\alpha$ H3K4me3, anti-H3K4 trimethylation;  $\alpha$ H3K9me3, anti-H3K9 trimethylation;  $\alpha$ ER $\alpha$ , anti-Estrogen Receptor  $\alpha$ ;  $\alpha$ p53, anti-p53;  $\alpha$ p-p53, anti-phospho-p53;  $\alpha$ NCoR, anti-Nuclear receptor co-repressor;  $\alpha$ -PARP-1, anti-PARP-1;  $\alpha$ Bax, anti-Bax  $\alpha$ Bcl-2, anti-Bcl-2;  $\alpha$  $\beta$ -Actin, anti-beta Actin; W.B, Western blotting; ChIP, Chromatin immunoprecipitation.

**Table S2.** Primers used for qRT-PCR and ChIP assays.

Primer List			
NCoR1	Forward	5' ACACCGCAGTATTGTCCAAAT 3'	qRT-PCR for human
	Reverse	5' CACCTGGTTTGTCTTGATGTTCT 3'	
GAPDH	Forward	5' TGATGACATCAAGAAGGTGGTGAAG 3'	
	Reverse	5' TCCTTGGAGGCCATGTAGGCCAT 3'	
p21 pro-moter	Forward	5' GTAAATCCTTGCCTGCCAGAG 3'	qPCR for ChIP assay
	Reverse	5' GCGCTGGACACATTTCCCCA 3'	

Abbreviation: NCoR1, Nuclear receptor co-repressor1; GAPDH, glyceraldehyde-3-phosphate dehydrogenase; p21, cyclin-dependent kinase inhibitor 1; ChIP assay, chromatin immunoprecipitation assay.

**Table S3.** *NCOR1* shRNA sequences for knockdown system.

shRNA sequences list	
<i>shNCoR1</i> #1	5' CCGGGCCACAGATGATGAAGAAATCTCGAGATTCTT CATCATCTGTGGGCTTTTG 3'
<i>shNCoR1</i> #2	5' CCGGGCCATCAAACACAATGTCAAACCTCGAGTTTGACA TTGTGTTTGATGGCTTTTG 3'

Abbreviation: NCoR1, Nuclear receptor co-repressor1.