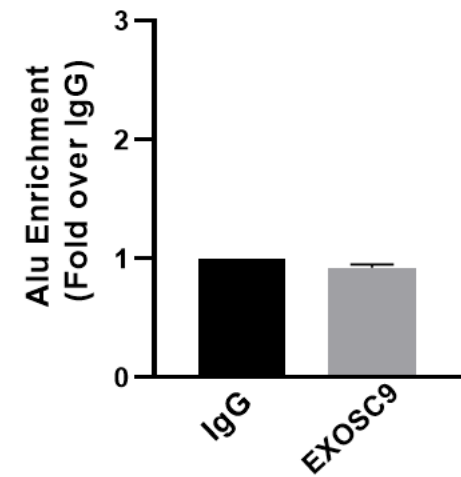
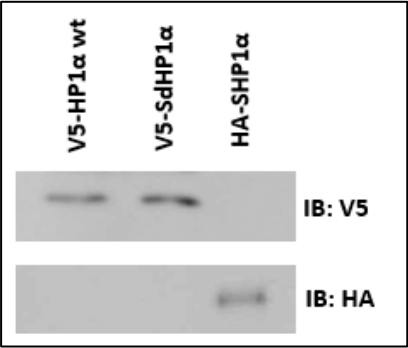


# Supplemental Figure S1: Alu Control and Transfection Efficiency.

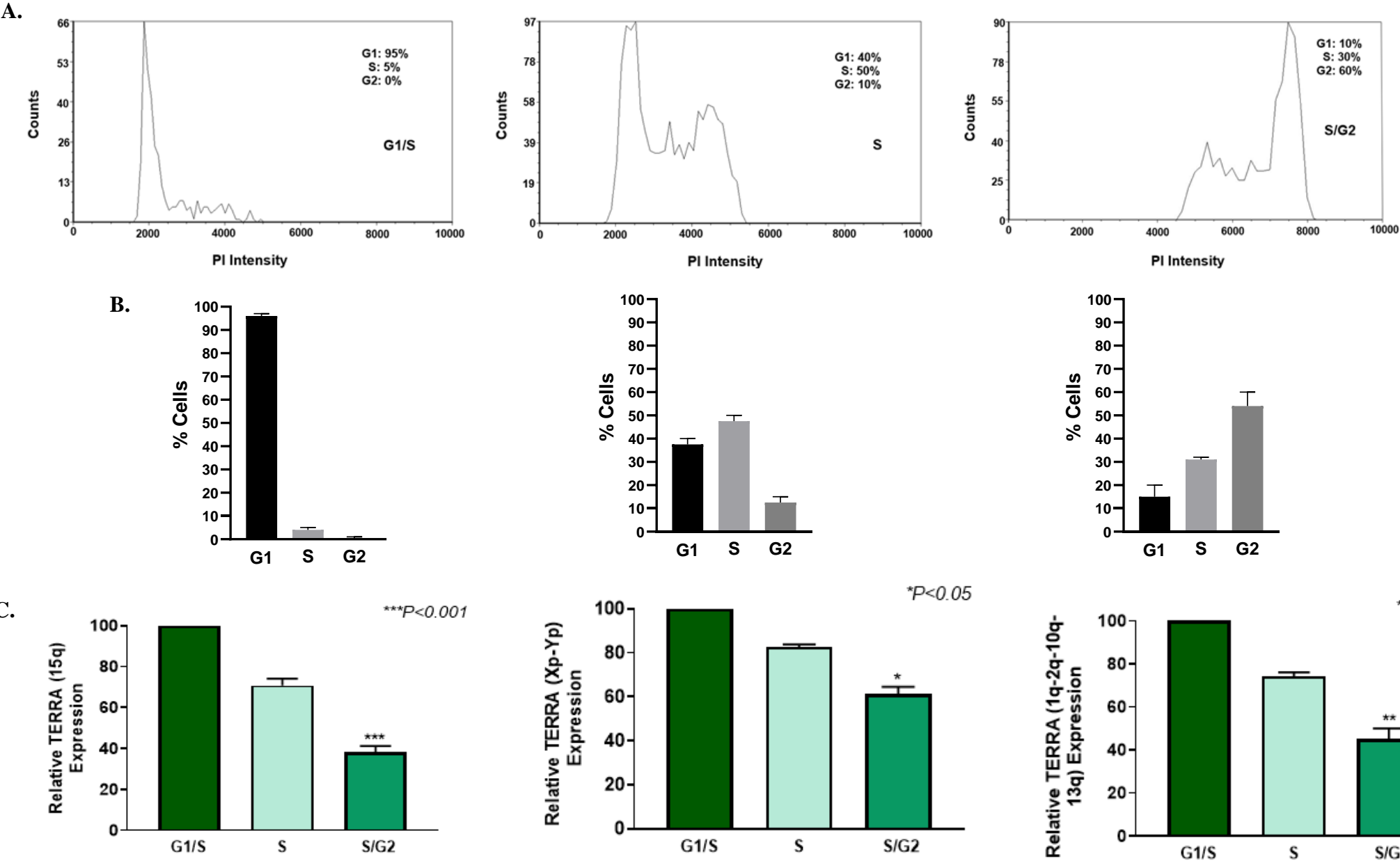
A.



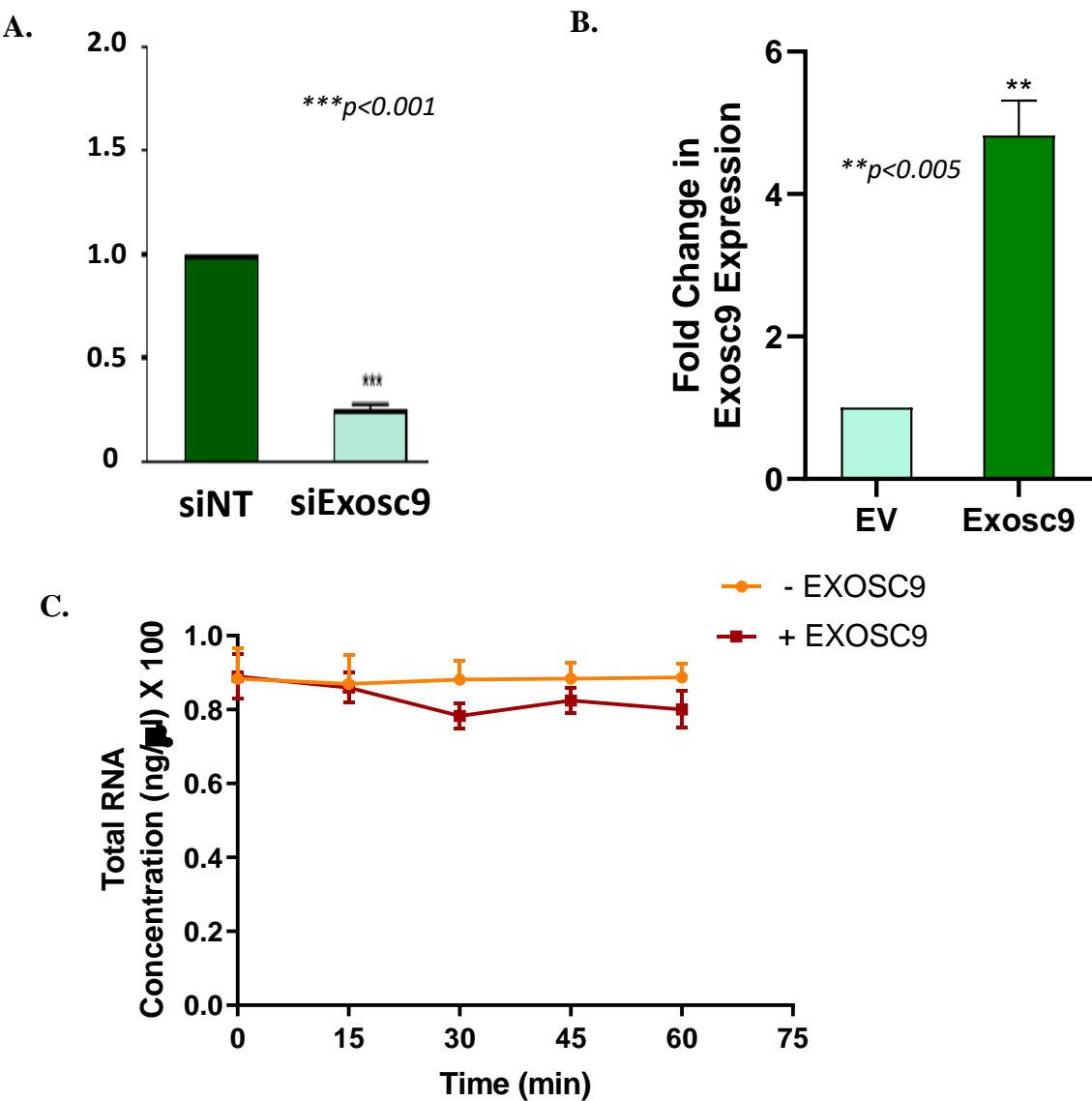
B.



# Supplemental Figure S2: Synchronization of Cells and TERRA Expression During Cell Cycle in Noncancerous Mammary Epithelial Cells.

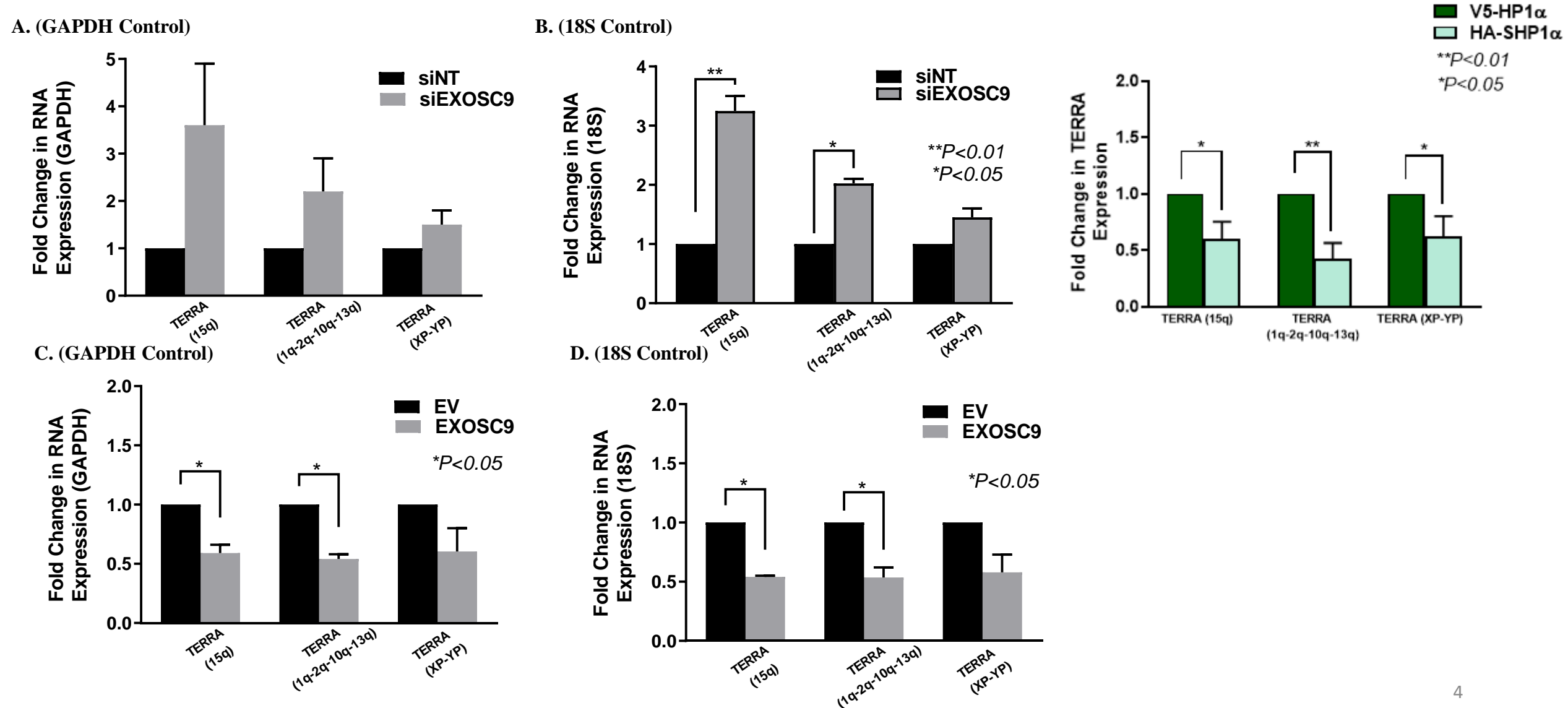


Supplemental Figure S3: Transfection Efficiency and Total RNA Levels in the Presence/Absence of Exosc9.

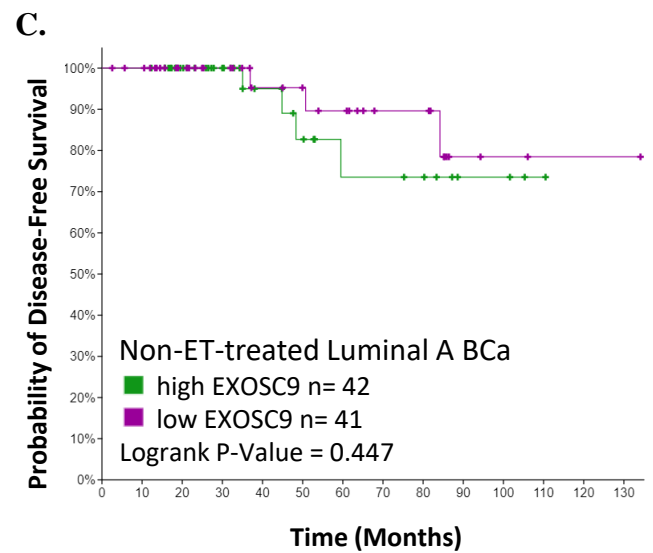
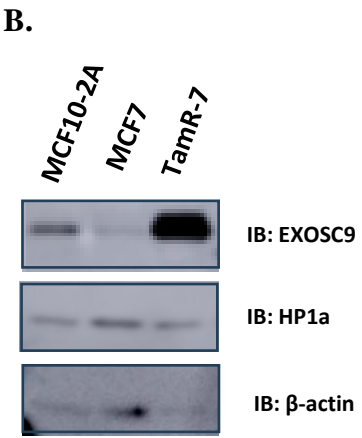
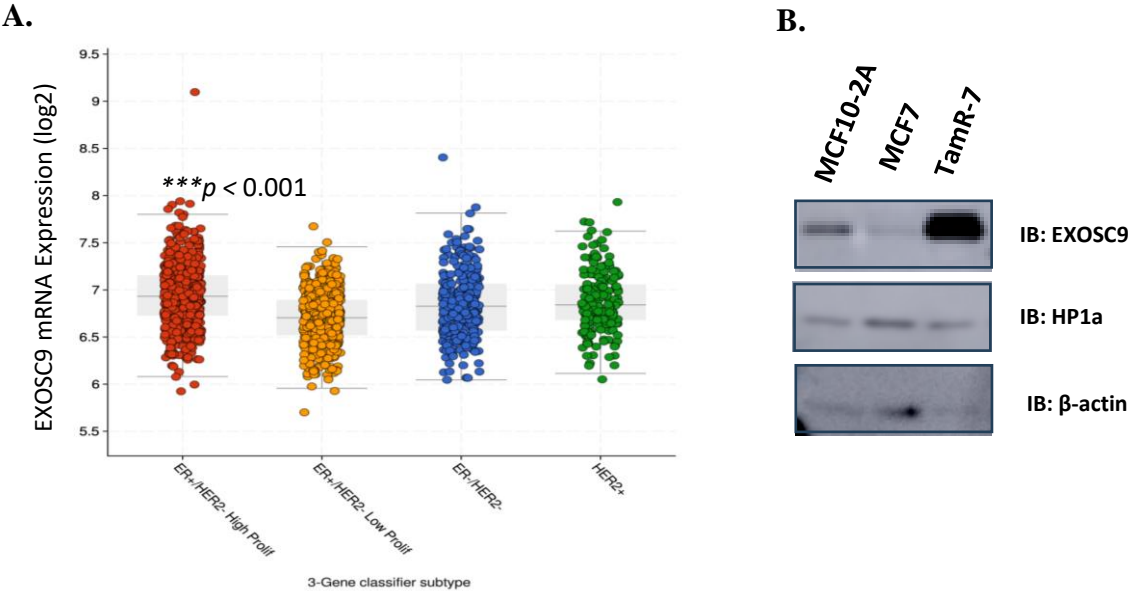


# Supplemental Figure S4: TERRA Expression is Normalized to GAPDH and 18S in the Knockdown and Overexpression of Exosc9 and SUMO-HP1 $\alpha$ Reduced TERRA Expression.

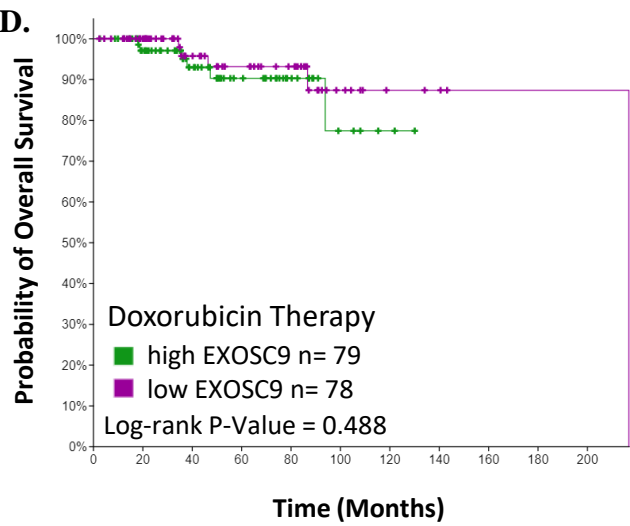
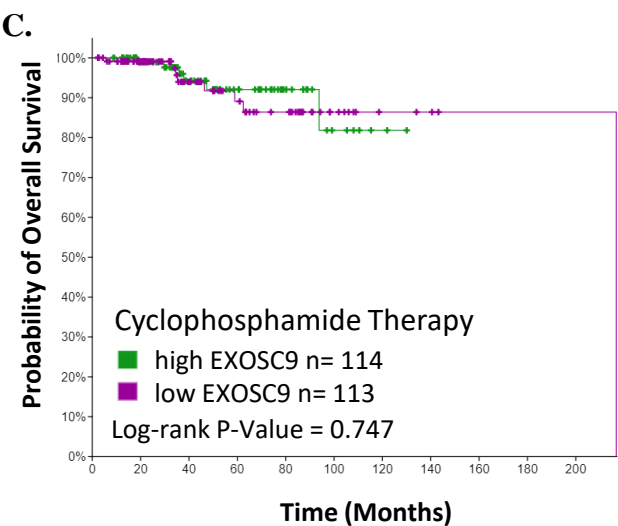
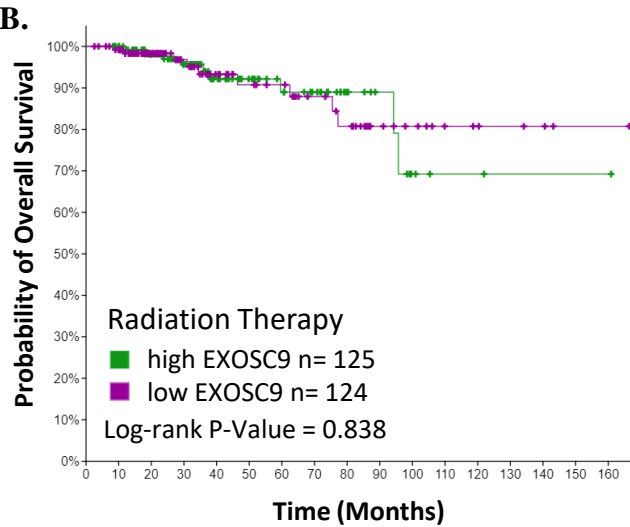
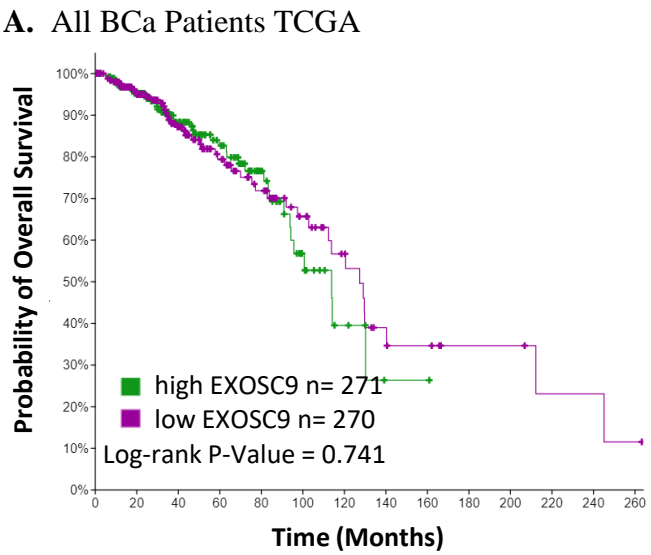
E.



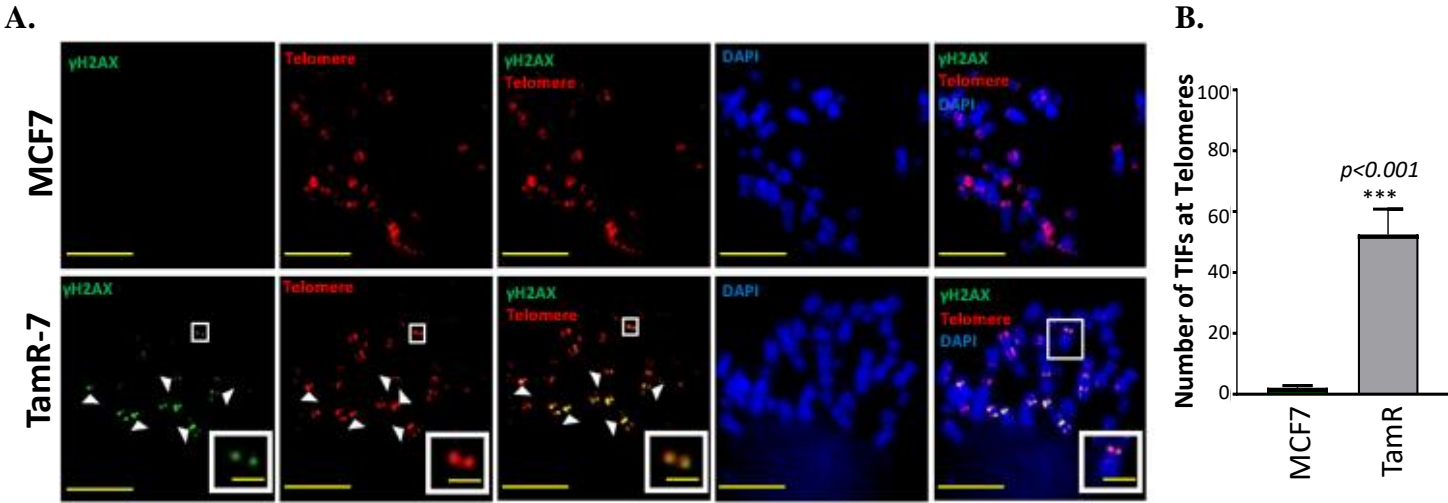
# Supplemental Figure S5: Induction of EXOSC9 and SUMO-HP1α in ET-resistant BCa.



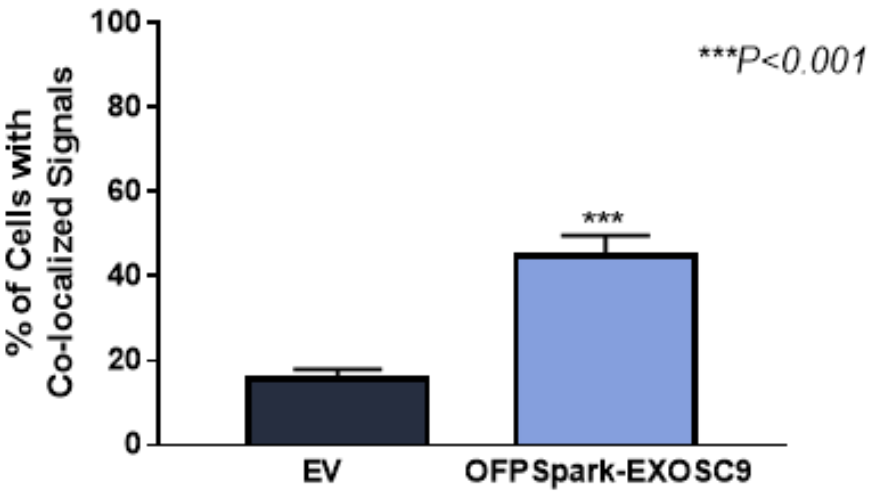
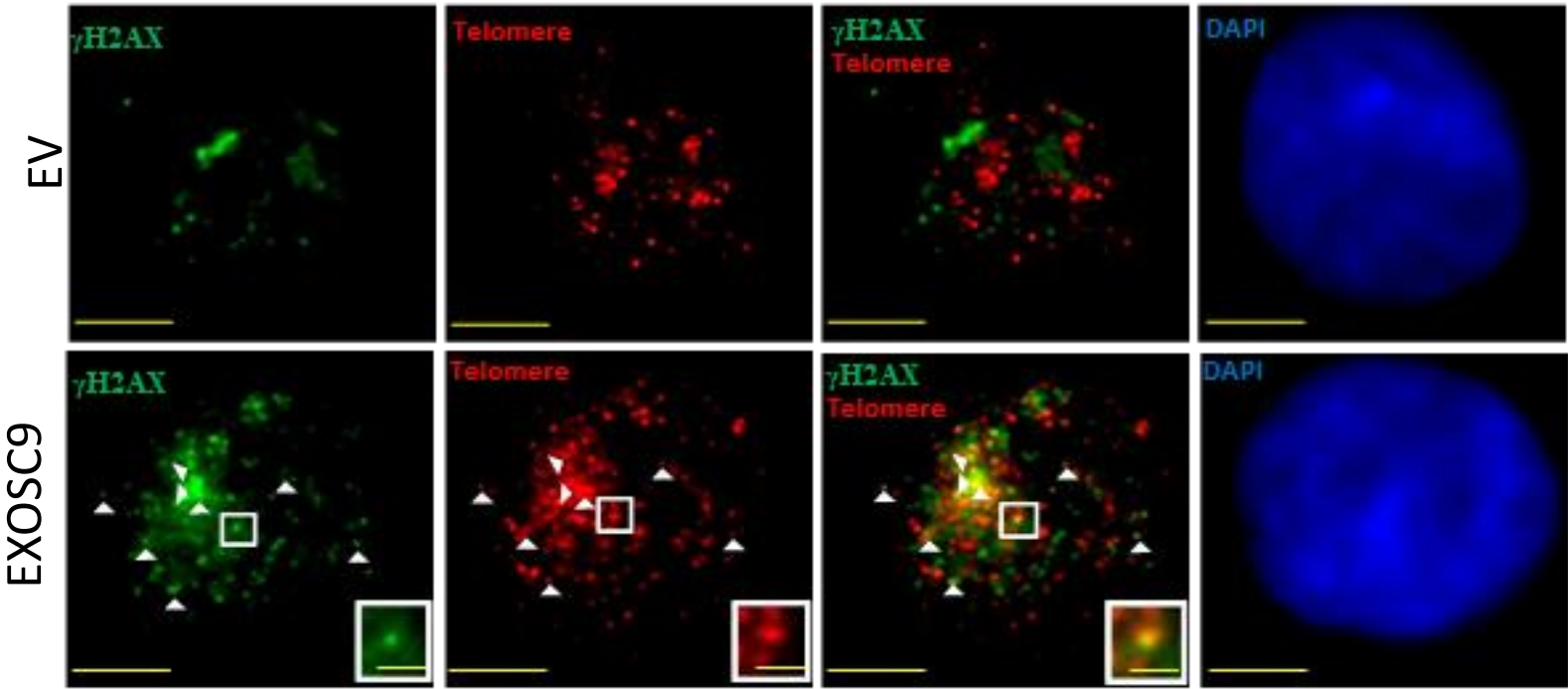
# Supplemental Figure S6: EXOSC9 levels and BCa Patient Overall Survival with Select Anti-Cancer Therapy.



# Supplemental Figure S7: TIFs Foci at Telomerers in ETS vs ETR.

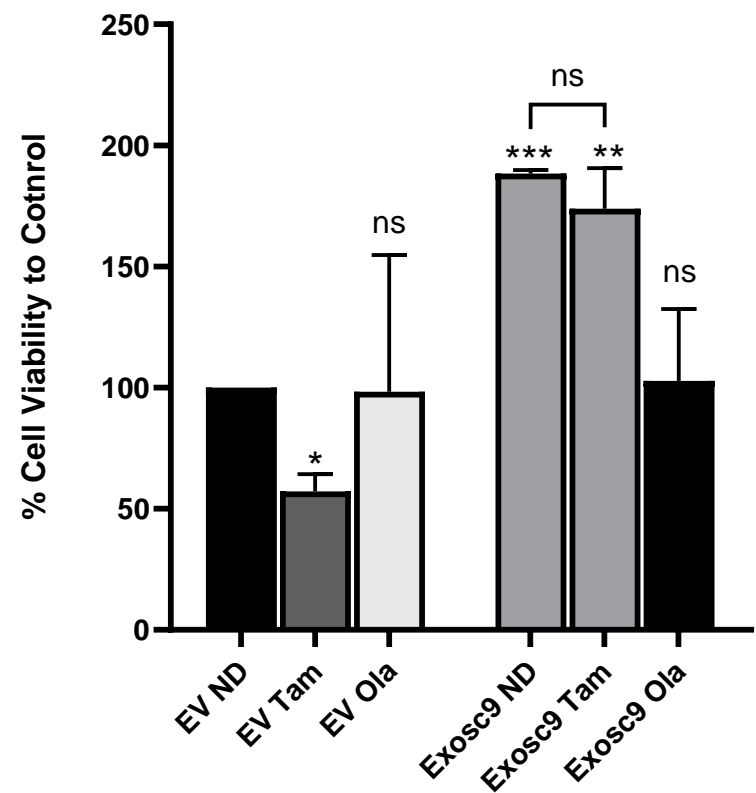


Supplemental Figure S8: TIFs Foci at Telomeres in the Overexpression of Exosc9 in noncancerous Mammary Epithelial Cells.





**Supplemental Figure S9: Cell Viability in Olaparib-Treated Tamoxifen Sensitive cells.**



**Supplemental Table S1: Primer Sequences.**

Target	Primer Sequence	Reference
TERRA (1q-2q-10q-13q)	Forward: 5’-‘GAATCCTGCGCACCGAGAT-3’ Reverse: 5’-CTGCACTTGAACCCTGCAATAC-3’	[43]
TERRA (15q)	Forward: 5’-CAGCGAGATTCTCCCAAGCTAAG-3’ Reverse: 5’-AACCCCTAACCATGAGCAACG-3’	[2]
TERRA (XpYp)	Forward: 5’-GCAAAGAGTGAAAGAACGAAGCTT-3’ Reverse: 5’-CCCTCTGAAAGTGGACCAATCA-3’	[2]
XIST	Forward: 5’- CTTGAAGACCTGGGGAAATCCC-3’ Reverse: 5’- TGTCAATCTAAAGGTAACCGGC-3’	[8]
HOTAIR	Forward: 5’- CAGTGGAATGGAACGGATTT-3’ Reverse: 5’- TCAGACTCTTTGGGGCCTTAC-3’	[8]
FIBRONECTIN	Forward: 5’-CCGCCGAATGTAGGACAAGA-3’ Reverse: 5’-TGCCAACAGGATGACATGAAA-3’	[20]
b-actin	Forward: 5’-CCATCAACGACCCCTTCATTGACC-3’ Reverse: 5’- TGGTTCACACCCATCACAAACATG-3’	[20]
Exosc9	Forward: 5’-TCG GGC AAC AGA AGG TAT TC-3’ Reverse: 5’-GTC CAT AGC ACA GGT GTA GAA A-3’	
Telomere primer for TELO-ChIP	Forward: 5’-ACACTAAGGTTTGGGTTTGGGTTTGGGTTTGGGTTAGTGT-3’ Reverse: 5’-TGTTAGGTATCCCTATCCCTATCCCTATCCCTATCCCTA-3’	[44]

43. Diman, A., et al., *Nuclear respiratory factor 1 and endurance exercise promote human telomere transcription*. Science Advances, 2016. **2**(7): p. e1600031.

44. Cawthon, R. *Telomere measurement by quantitative PCR*. Nucleic Acids Research, 2002. **30**(10): p.e47.