Table S1 Sequences of primers and siRNA sequence

Variables	Sequences (5'-3')
Primers for RT-qPCR	
TSPAN1 (forward)	CGTTGTGGTCTTTGCTCTTG
TSPAN1 (reverse)	TTCTTGATGGCAGGCACTAC
GAPDH (forward)	GTCTCCTCTGACTTCAACAGCG
GAPDH (reverse)	ACCACCCTGTTGCTGTAGCCAA
Interference sequences (siRNA)	
TSPAN1 siRNA 1 sense (si1)	GGCUCACGACCAAAAAGUAtt
TSPAN1 siRNA 1 antisense (si1)	UACUUUUUGGUCGUGAGCCtt
TSPAN1 siRNA 2 sense (si2)	GCUUUUGUAUGACAUCCGAtt
TSPAN1 siRNA 2 antisense (si2)	UCGGAUGUCAUACAAAAGCtg
Control sense (siNC)	UUCUCCGAACGUGUCACGUdTdT
Control antisense (siNC)	ACGUGACACGUUCGGAGAAdTdT

RT-qPCR, quantitative reverse transcription polymerase chain reaction.
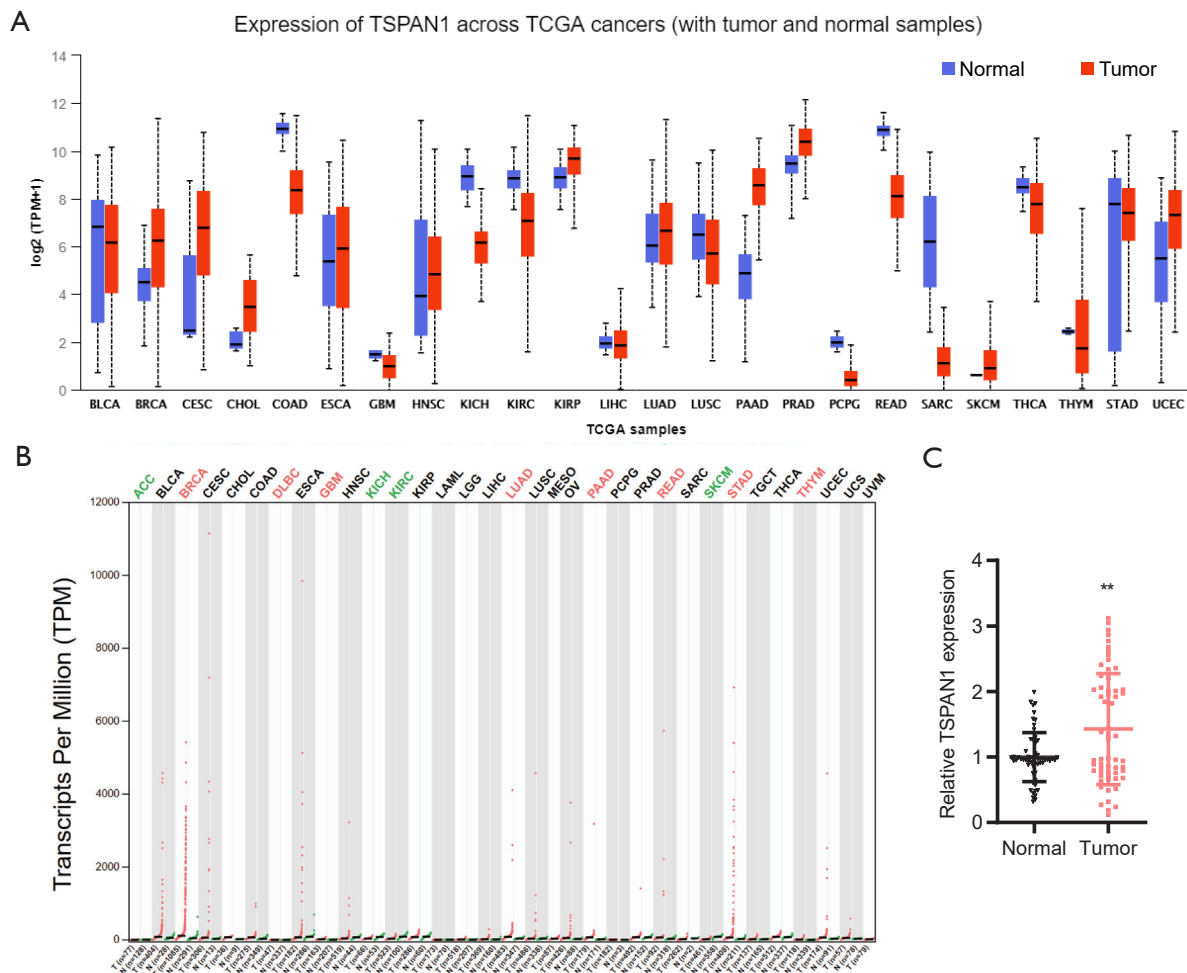

Figure S1 TSPAN1 expression in breast cancer. (A) TSPAN1 expression in pan-cancer, analyzed with UALCAN. (B) TSPAN1 expression in various cancer tissues and normal tissues analyzed using GEPIA; The height of the bar represents the median expression of a certain tumor type or normal tissue. (C) Representative western blotting analysis of TSPAN1 levels in breast cancer *vs.* corresponding normal samples (**, P<0.01, *vs.* normal group). TSPAN1, tetraspanin 1; GEPIA, Gene Expression Profiling Interactive Analysis.
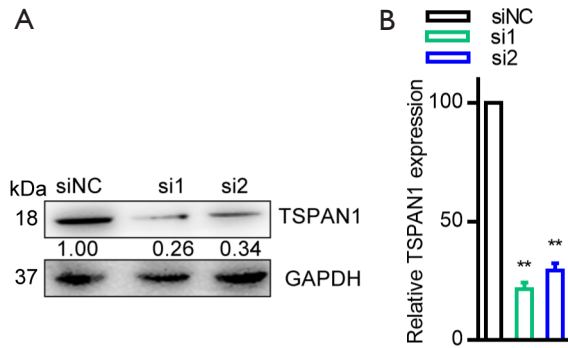
Figure S2 TSPAN1 expression assessed using western blotting and RT-qPCR. The expression of TSPAN1 evaluated through western blotting (A) and RT-qPCR (B) in BT474 cancer cell lines with TSPAN1 knockdown. **, P<0.01, *vs.* siNC group. TSPAN1, tetraspanin 1; RT-qPCR, quantitative reverse transcription polymerase chain reaction.
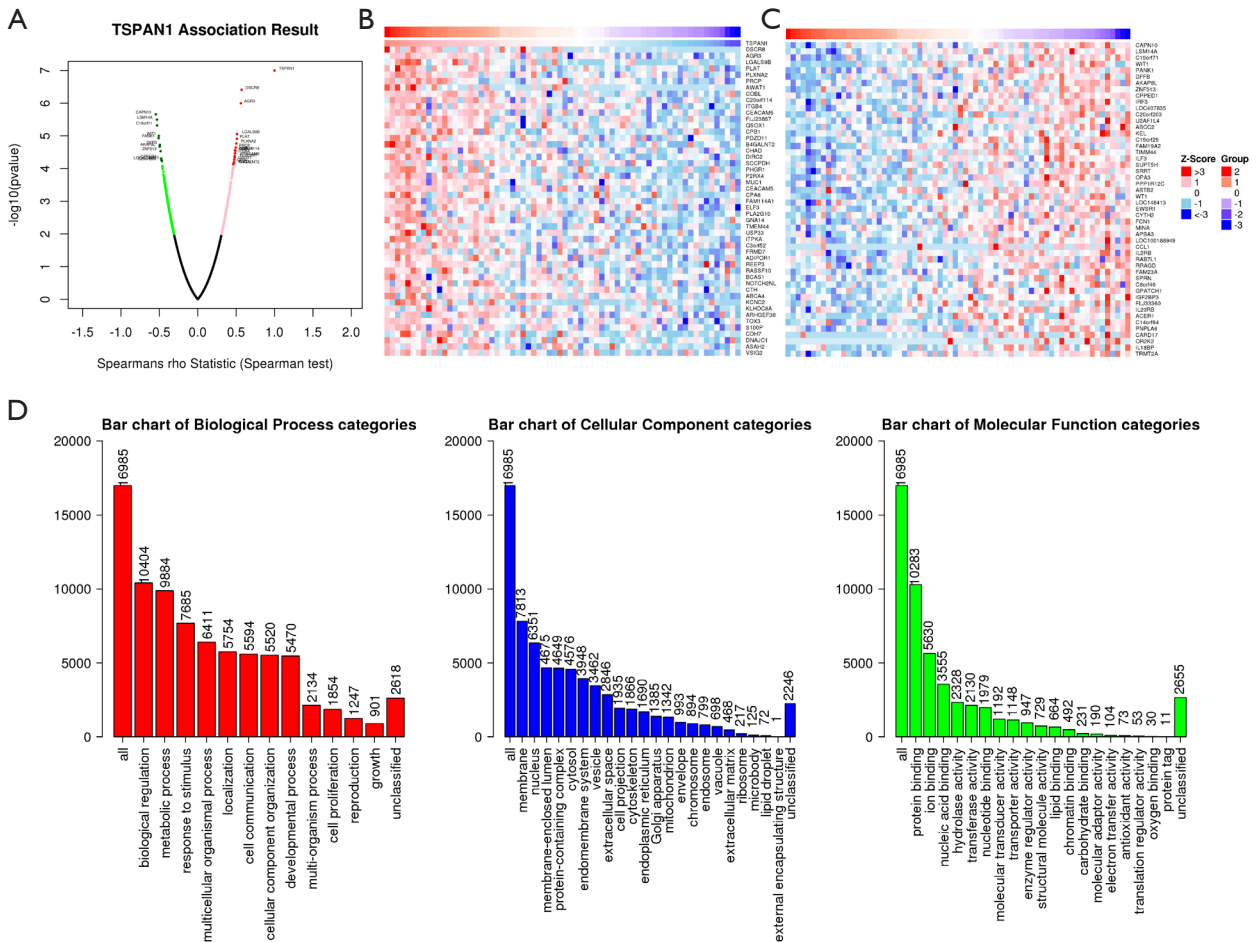

Figure S3 Integrative multiomics analysis of TSPAN1 mRNA expression in breast cancer. (A) Association of TSPAN1 with genes differentially expressed in breast cancers. Heatmaps for genes positively (B) and negatively (C) correlated with TSPAN1 in breast cancers (top 50). (D) Significantly enriched GO annotations of TSPAN1 in the breast cancer cohort. TSPAN1, tetraspanin 1; GO, Gene Ontology.
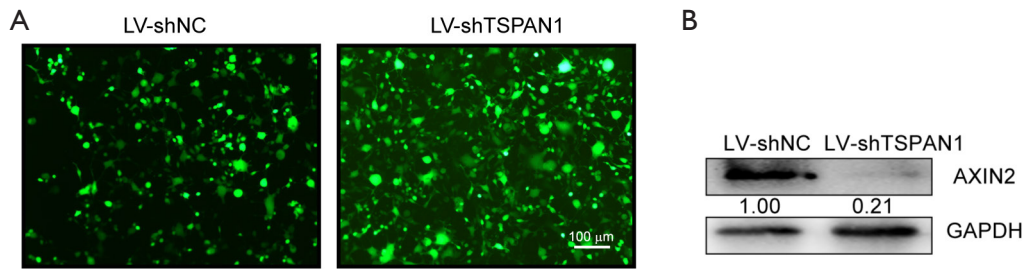
Figure S4 TSPAN1 shRNA-mediated expression in T47D breast cancer cells. (A) GFP fluorescence images of LV-shNC and LV-shTSPAN1 cells (100×). The scale bars represent 100 µm. (B) TSPAN1 protein detection by western blotting after shRNA silencing. TSPAN1, tetraspanin 1; GFP, green fluorescent protein.