

**Figure S1.** FDA-approved HDAC inhibitor SAHA decreases cellular viability in MCF-7 and MDA-MB-231 breast cancer cells. (**A**) MTT assay of MCF-7 cells indicates decreases in cell viability at increasing concentrations of SAHA. (**B**) MDA-MB-231 cells show decreases in viability at increasing concentrations of SAHA. (**C**) The non-cancerous MCF10A cells show statistically insignificant decreases in cell viability except for the relatively high concentration of 7  $\mu$ M SAHA. (*n* = 3: SEM, \* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001).



**Figure S2.** SFN and WA promote cell death in T-47D breast cancer cells. (**A**) MTT assay of T-47D cells indicates decreases in cell viability with the incorporation of the indicated compounds after 3 days. (**B**) FACS analysis demonstrates an increase in apoptosis caused by combinatorial WA and SFN after 3 days. (**C**) Cells were treated for 3 days with DMSO. qRT-PCR verifies that the caspase 3 gene is expressed in T-47D breast cancer cells (*n* = 3: SEM, \*\* *p* < 0.01, \*\*\* *p* < 0.001).