**Supplemental Figures** 



Figure S1. Dose-dependent inhibition of FASN activity by different PPIs.



Figure S2. Colony formation survival assay of MCF7, T47D, MDA-MB-231, and MDA-MB-468 cells in the presence of various concentrations of different PPIs.



Figure S3. FASN overexpression in MCF7 cells (left panel) or knockdown in M3K cells (right panel) do not affect their proliferation or survival.



Figure S4. Effect of lansoprazole on homologous recombination (HR) activity in MCF7 and MDA-MB-468 cells.



Figure S5. Immunofluorescence staining of  $\gamma$ -H2AX in MCF7 and MDA-MB-468 cells following 72-hour treatments with 10  $\mu$ M lansoprazole or control DMSO vehicle.



Figure S6. Effect of lansoprazole on apoptosis (A) and cell cycle distribution (B) in MCF7 and MDA-MB-468 cells.



**Figure S7.** A. Colony formation survival assay of MCF7 and MDA-MB-468 cells in the presence various concentrations of doxorubicin. B. Doxrubicin IC<sub>50</sub> as determined from dose-dependent survival curves in panel A. C. Colony formation survival assay of MCF7 and MDA-MB-468 cells in the presence of different combinations of lansoprazole and doxorubicin. D. Combination index analysis between lansoprazole and doxorubicin with different combination ratios.