

Supporting Information

A Phosphorus Phthalocyanine Formulation with Intense Absorbance at 1000 nm for Deep Optical Imaging

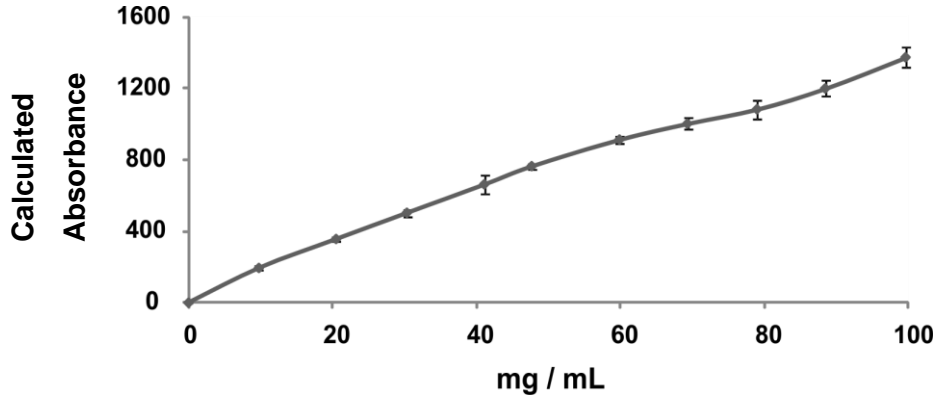


Figure S1. Calculated absorbance of P-Pc dye in Tween 80. Different concentrations of P-Pc dye in Tween 80 were diluted 1990 times in water and the absorbance peak near 1000 nm was measured using a cuvette with a standard 1 cm path length. The value was multiplied by 1990 times to correspond to the calculated absorbance in the original solution for a 1 cm path length.

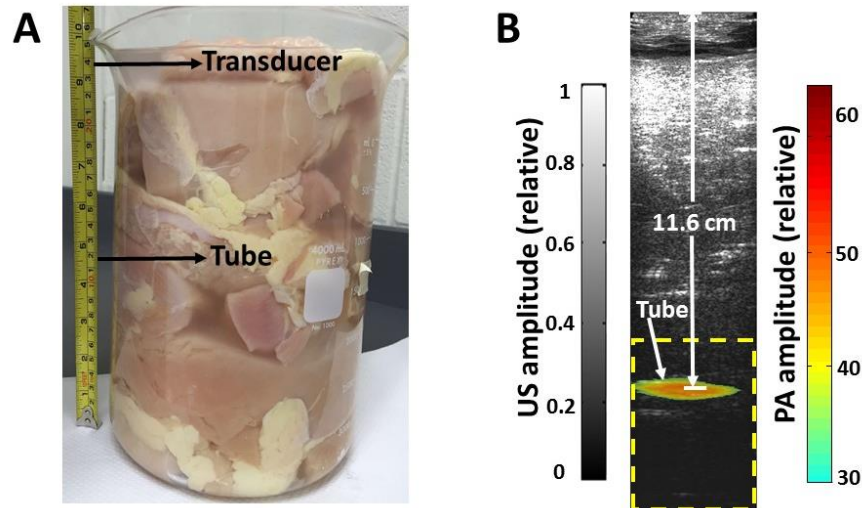


Figure S2. PACT detection of P-Pc in a tube surrounded by 11.6 cm of chicken tissue on both top and bottom (A) Photograph of the sample setup with chicken breast stacked on top and on bottom of a tube containing the P-Pc formulation. (B) Overlaid photoacoustic (color, within the dashed box) and ultrasound (gray) images of the tube at 11.6 cm depth.

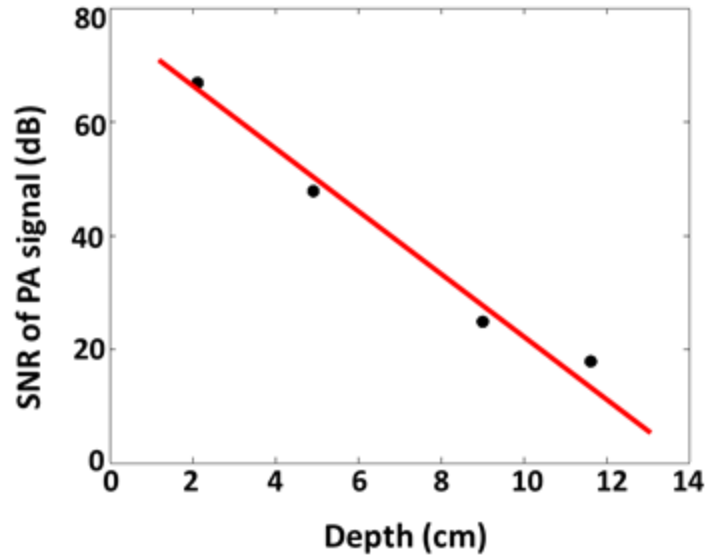


Figure S3. Signal to noise ratio of P-Pc PA signal in chicken breast tissue at varying depths.

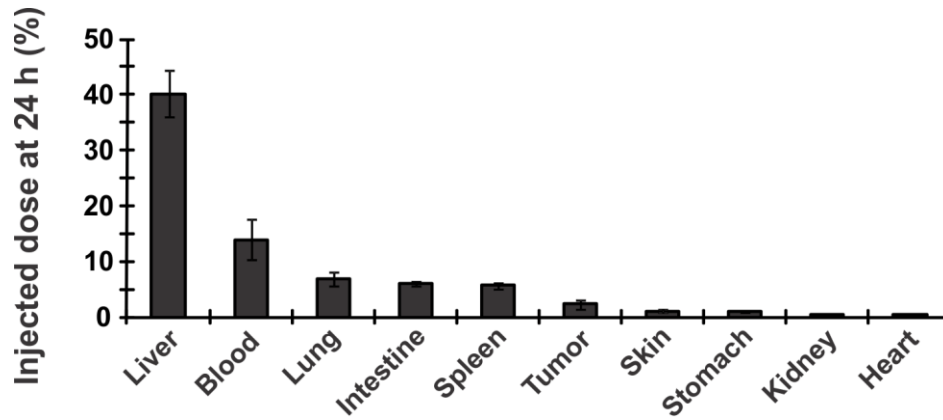


Figure S4. Biodistribution of P-Pc following intravenous injection to tumor-bearing mice. Nude mice bearing MIA PaCa-2 subcutaneous tumors were injected with the P-Pc formulation. 24 hours later, mice were sacrificed and dye was extracted from tissues with chloroform to calculate biodistribution based on absorption.

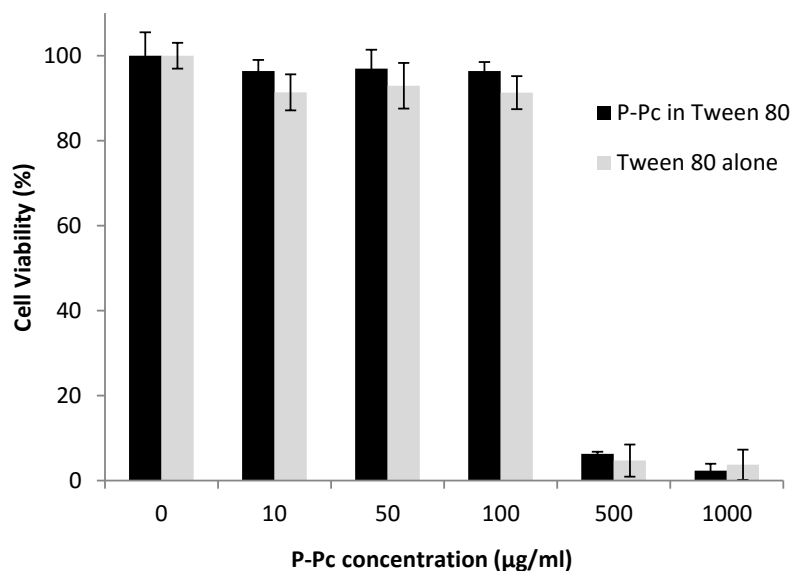


Figure S5. Effect of P-Pc on cell viability. U87 cells were incubated with the P-Pc Tween 80 formulation or an equivalent amount of Tween 80 alone for 24 hours. Viability was determined by the XTT assay. Values show mean \pm std. dev. for $n=3$.

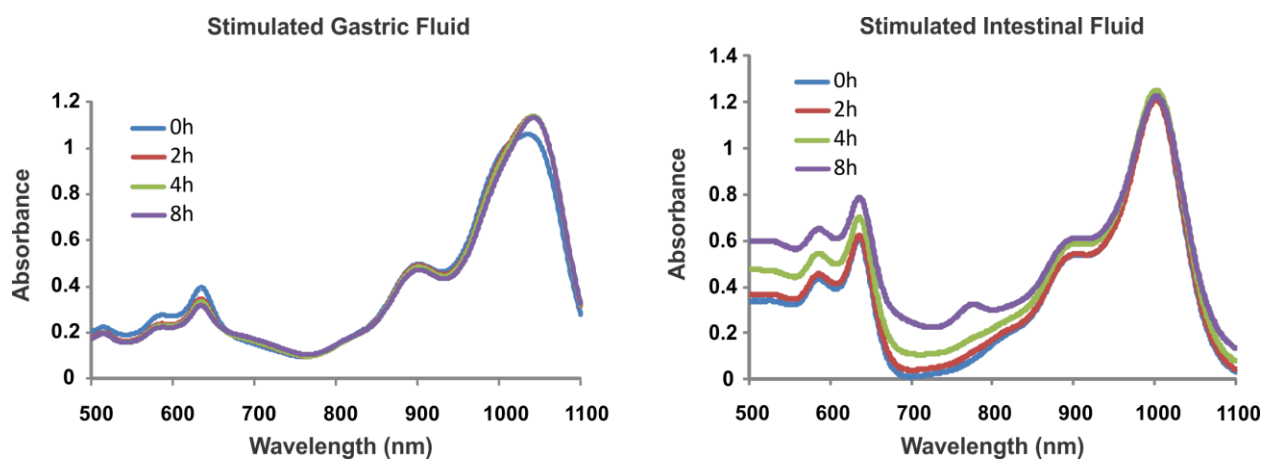


Figure S6. P-Pc is stable in simulated gastric and intestinal fluid. P-Pc was diluted into simulated gastric fluid or simulated intestinal fluid and dialyzed at 37 °C in those solutions. Solution absorbance was measured at the indicated time points. Data shown is representative of 3 independent trials for all time points and conditions.