**Supplementary Material 1. Cell Viability Assessment with MTS Assay**

 To further validate the efficacy of PDT-NBI, cell viability was assessed using the MTS assay on KYSE30 cells. The results indicated a comparable decrease in viability at a concentration of 3.2 μM (-49.7%, *p* < 0.05) of VP under NBI light (5 J/cm2) compared to crystal violet staining. NBI, narrow-band imaging; PDT, photodynamic therapy; VP, verteporfin. \*p <0.05.

