

In Vitro and *In Vivo* Synergetic Radiotherapy with Gold Nanoparticles and Docetaxel for Pancreatic Cancer

Supplementary Section S1: GNPs Characterization

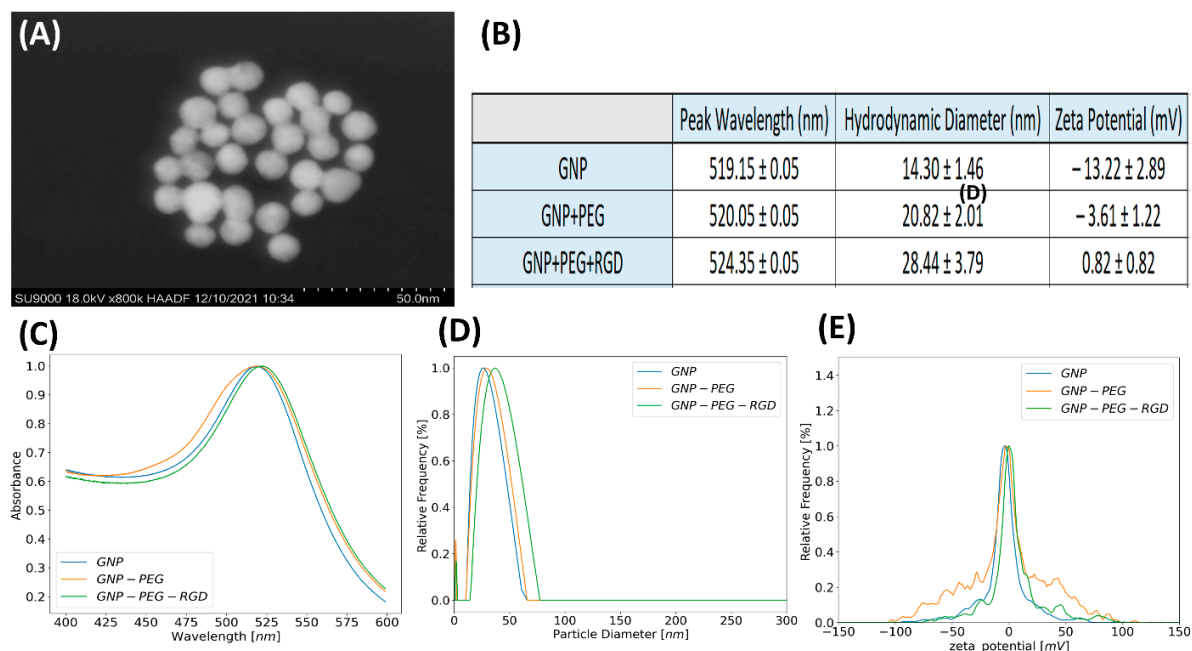


Figure S1. Gold nanoparticles (GNPs) characterization. (A) High-Angle Annular Darkfield (HAADF) Scanning Transmission Electron Microscopy (STEM) image of GNPs (B) A table outlines the peak absorption wavelength, hydrodynamic diameter, and mean ζ -potential for GNPs, GNP_{PEG}, and GNP_{PEG-RGD}. (C) UV-visible absorption spectra of GNPs, GNP_{PEG}, and GNP_{PEG-RGD}. (D) The hydrodynamic diameter of GNPs, GNP_{PEG}, and GNP_{PEG-RGD}. (E) The ζ -potential of GNPs, GNP_{PEG}, and GNP_{PEG-RGD}.

Supplementary Section S2: Cell Proliferation

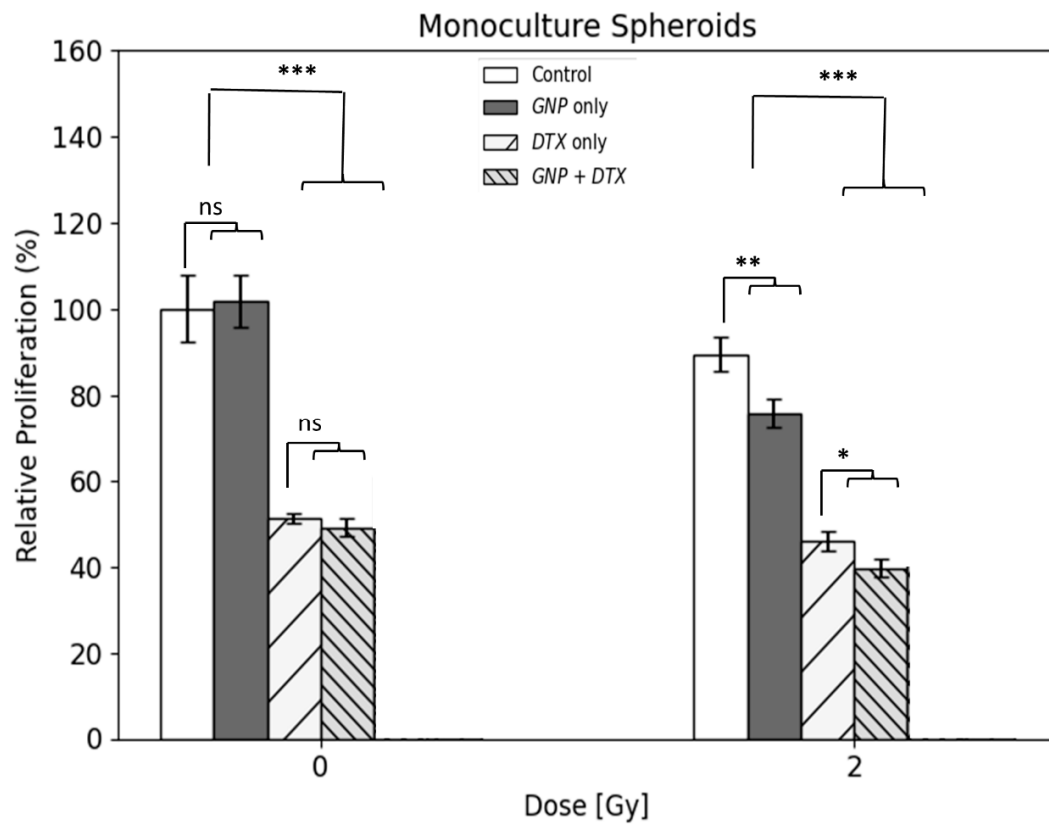


Figure S2. Monoculture spheroids proliferation post-treatment. Monoculture spheroids relative cell proliferation at day 14 post-treatment. ns indicates non-significance, * indicates $p < 0.05$, ** indicates $p < 0.01$, *** indicates $p < 0.001$.

Supplementary Section S3: DNA DSB no Radiation

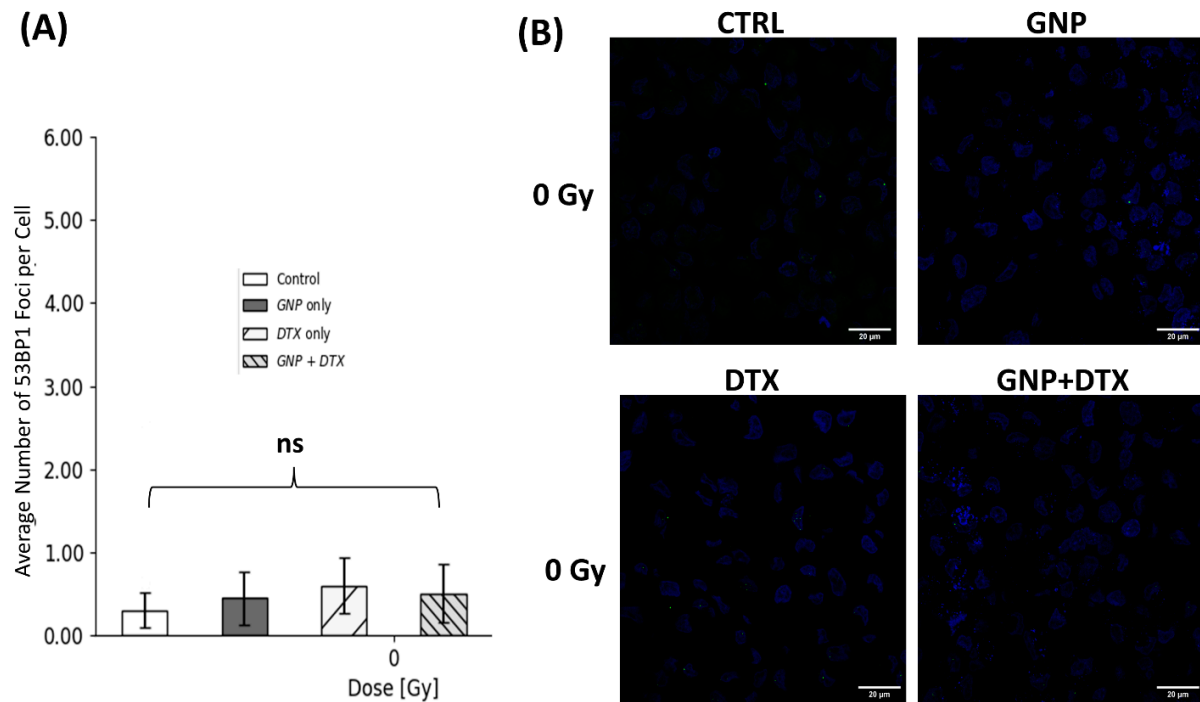


Figure S3. 2D monoculture repair protein mapping. **(A)** The average number of 53BP1 per cell in 2D monoculture without radiation following treatments with different agents. ns indicates non-significance, * indicates $p < 0.05$, ** indicates $p < 0.01$. **(B)** Confocal microscopy images of repair protein 53BP1 in the nucleus of non-irradiated monocultures of MIA PaCa-2. The cell nuclei are stained blue, while the green dots indicate 53BP1 foci. Scale bar: 20 μm .

Supplementary Section S4: DNA DSB with Radiation

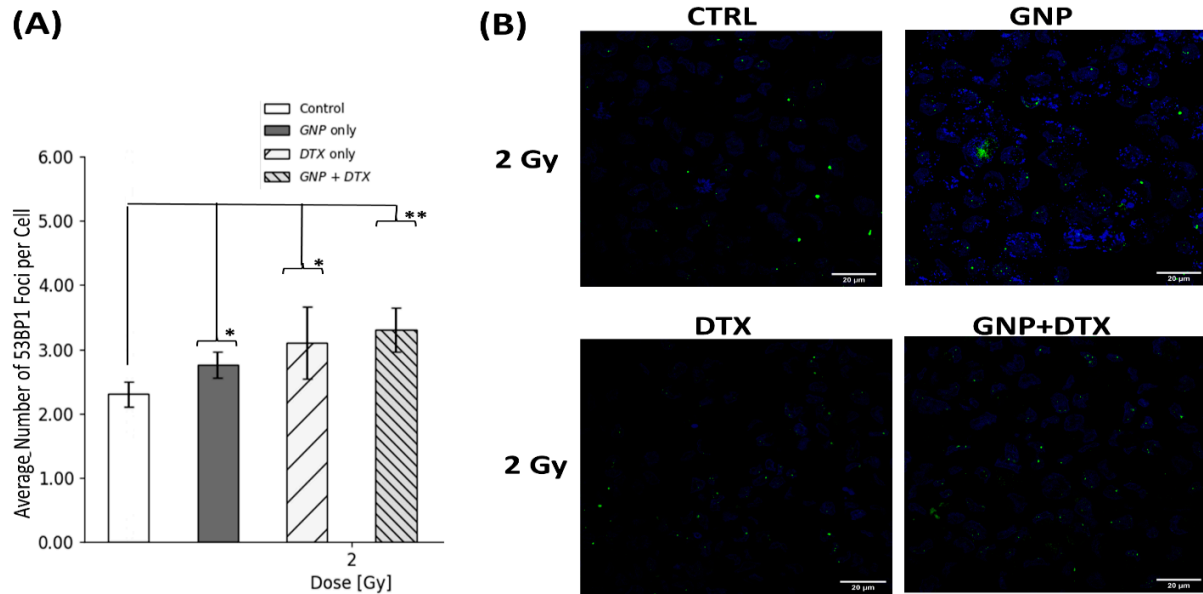


Figure S4. 2D monoculture repair protein mapping. **(A)** The average number of 53BP1 per cell in 2D monoculture 24 hours after irradiation with a dose of 2 Gy following treatments with different agents. ns indicates non-significance, * indicates $p < 0.05$, ** indicates $p < 0.01$. **(B)** Confocal microscopy images of repair protein 53BP1 in the nucleus of non-irradiated monocultures of MIA PaCa-2. The cell nuclei are stained blue, while the green dots indicate 53BP1 foci. Scale bar: 20 μm .

Supplementary Section S5: Proliferation GNPs & DTX with RT vs 5/10 Gy

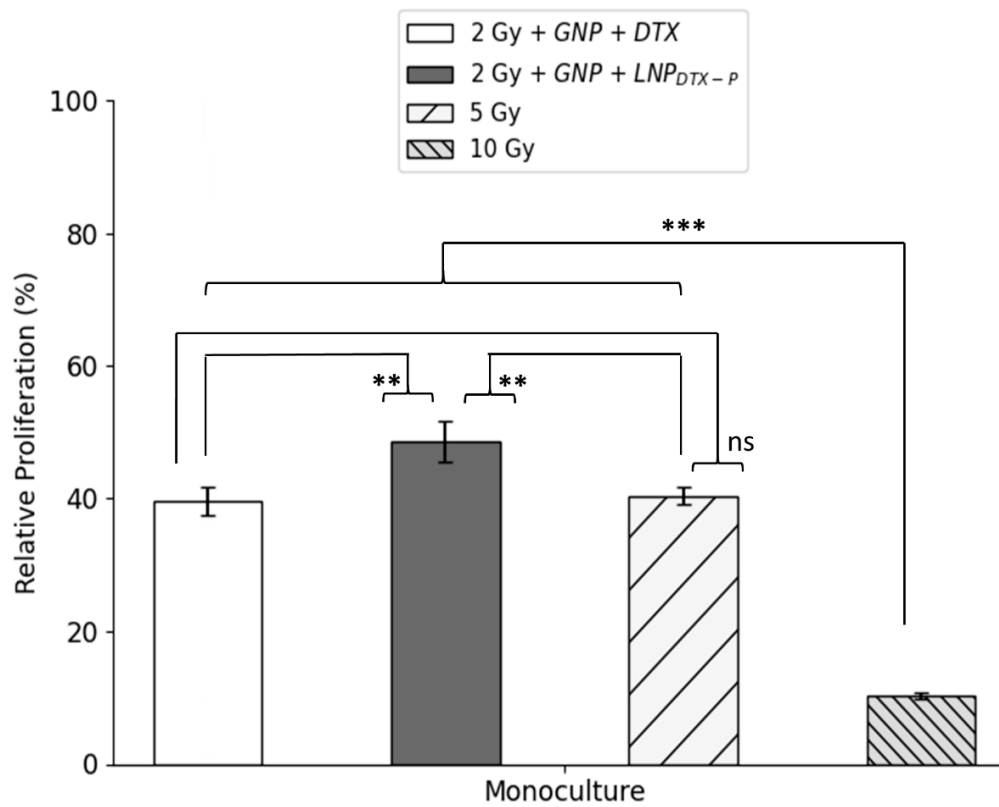


Figure S5. Monoculture spheroids proliferation post-treatment. Monoculture spheroids relative cell proliferation at day 14 post-treatment. ns indicates non-significance, ** indicates $p < 0.01$, *** indicates $p < 0.001$.