

# Utilizing Gold Nanoparticles as Prospective Radiosensitizers in 3D Radioresistant Pancreatic Co-Culture Model

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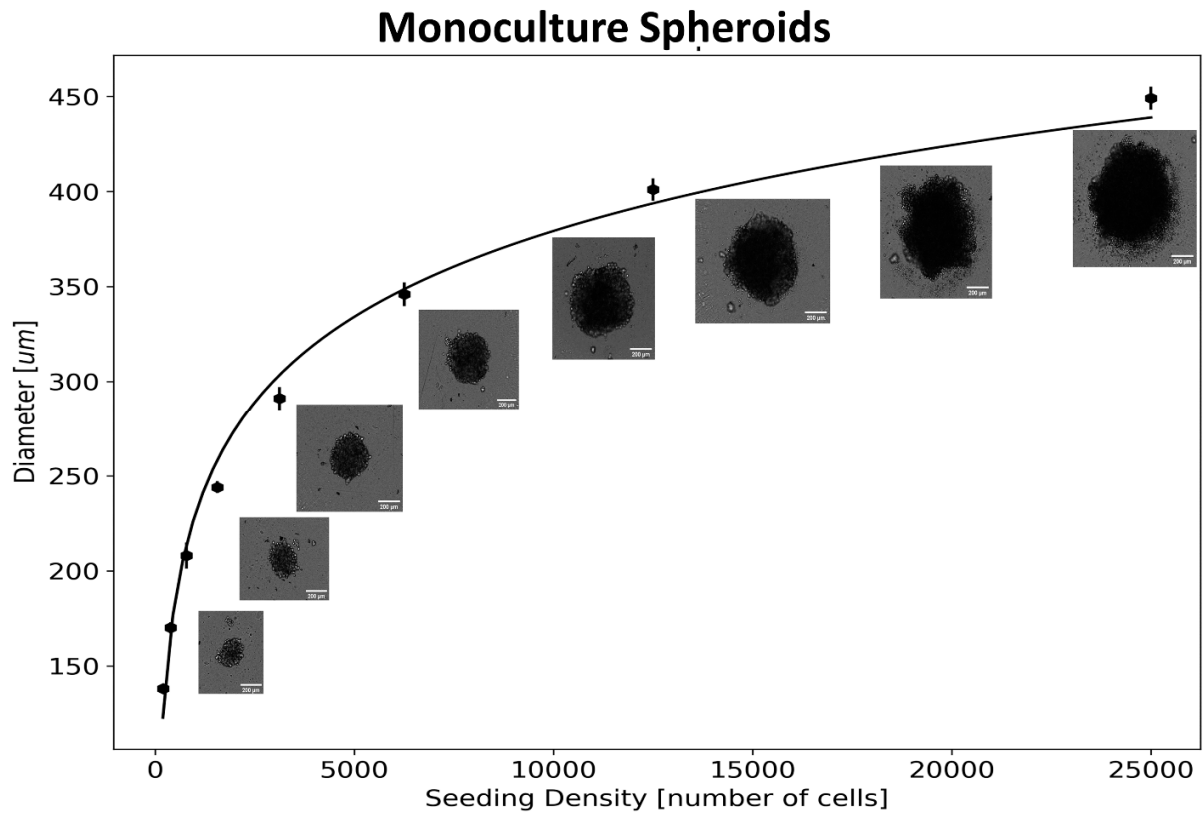
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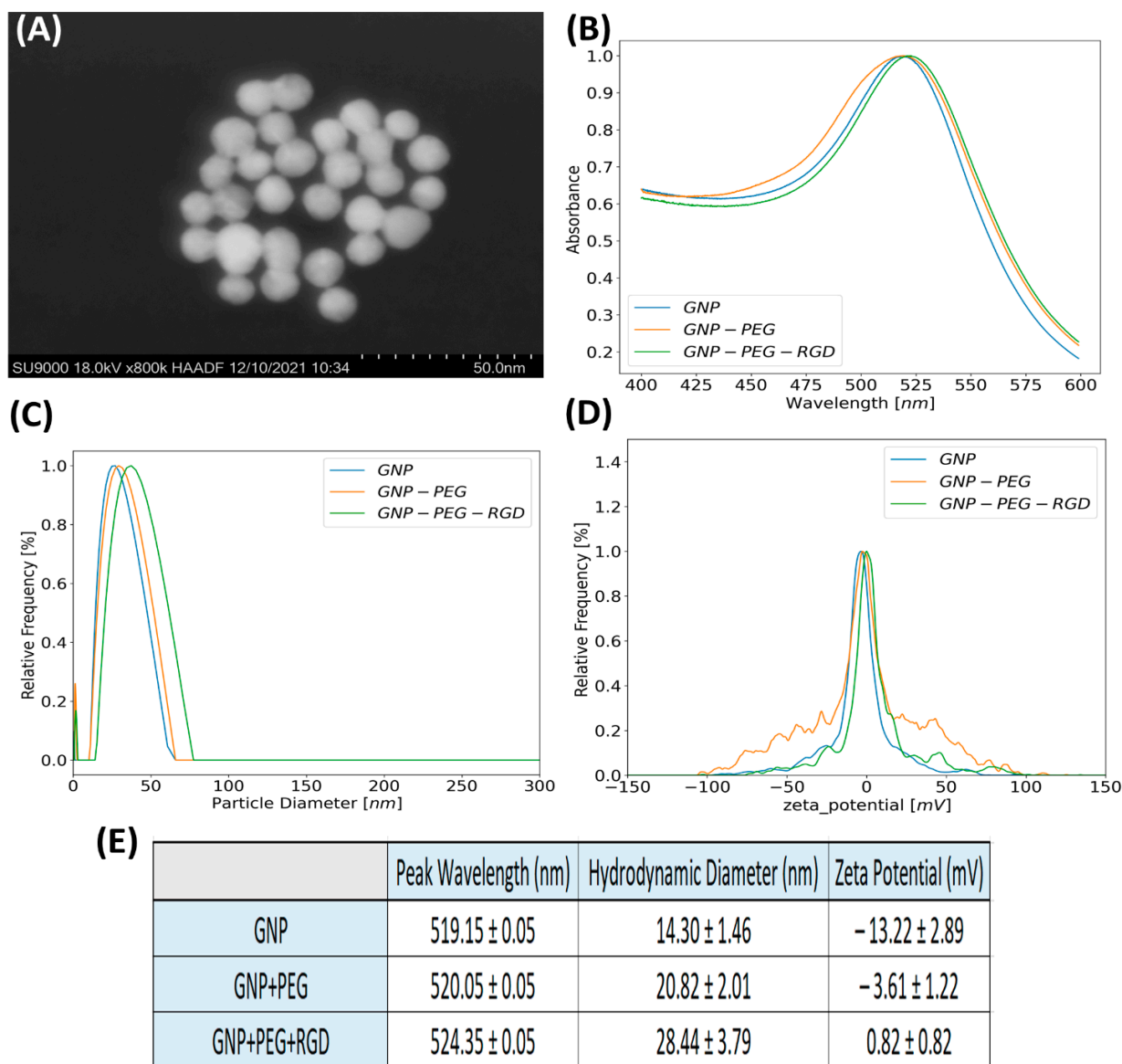
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Supplementary Section S1: Monoculture Spheroids



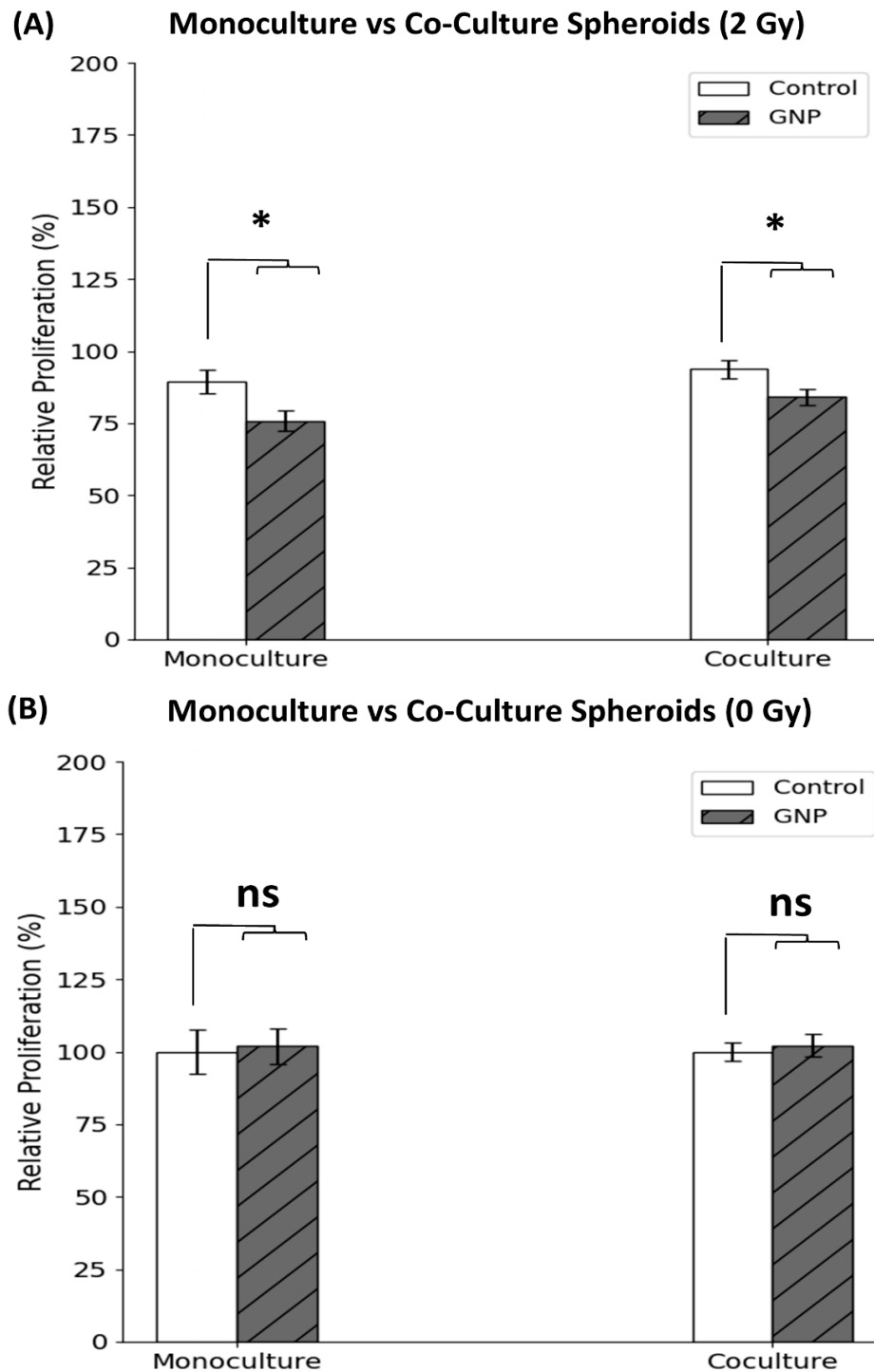
**Figure S1.** Characterizing pancreatic cancer 3D spheroid size. The size of the spheroids for MIA PaCa-2 monoculture under different initial cell count seeding. The scale bar is 200  $\mu\text{m}$ .

## Supplementary Section S2: GNPs Characterization



**Figure S2.** Gold nanoparticles (GNPs) characterization. **(A)** High-Angle Annular Darkfield (HAADF) Scanning Transmission Electron Microscopy (STEM) image of GNPs **(B)** UV-visible absorption spectra of GNPs, GNP<sub>PEG</sub>, and GNP<sub>PEG-RGD</sub>. **(C)** The hydrodynamic diameter of GNPs, GNP<sub>PEG</sub>, and GNP<sub>PEG-RGD</sub>. **(D)** The  $\zeta$ -potential of GNPs, GNP<sub>PEG</sub>, and GNP<sub>PEG-RGD</sub>. **(E)** A table outlines the peak absorption wavelength, hydrodynamic diameter, and mean  $\zeta$ -potential for GNPs, GNP<sub>PEG</sub>, and GNP<sub>PEG-RGD</sub>.

Supplementary Section S3: Spheroids Proliferation



**Figure S3.** Monoculture vs co-culture spheroids proliferation post-treatment with radiation. **(A-B)** Irradiated spheroids **(A)** and non-irradiated spheroids **(B)** relative cell proliferation at day 14 post-treatment. ns indicates non-significance, \* indicates  $p < 0.05$ .