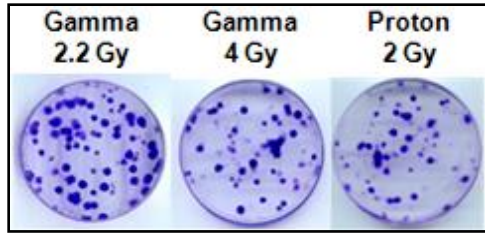
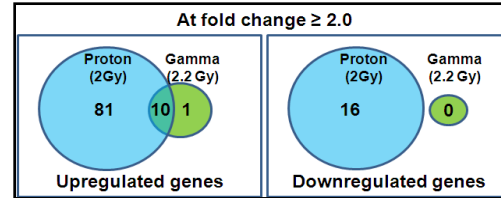


Biological effectiveness of Low and High LET radiation

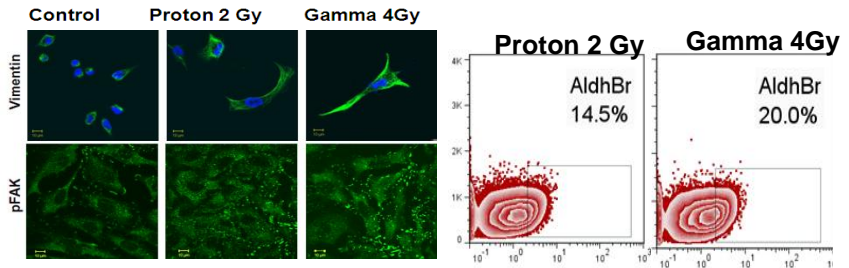
Proton irradiation



4 Gy of Gamma equitoxic to Proton 2 Gy

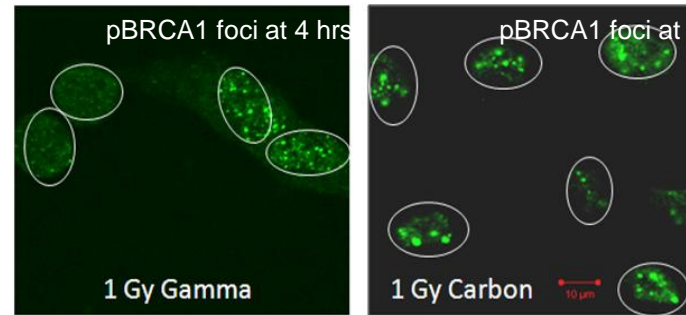
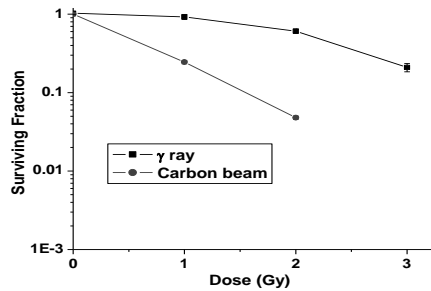


Transcriptional response of proton and gamma irradiated cells



Equitoxic dose of proton suppresses EMT and cancer stem cell like cells phenotype

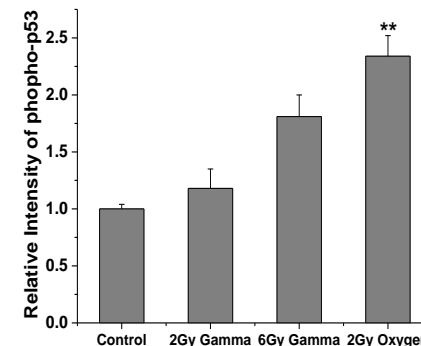
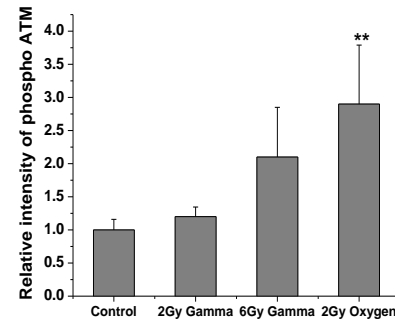
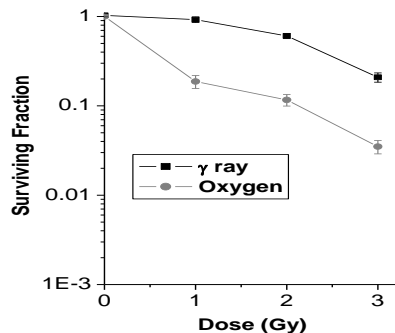
Carbon - beam irradiation



Carbon-beam irradiated cells showed:

- 1.2 times higher γ H2Ax foci than gamma.
- Qualitative and quantitative differences in Radiation induced foci (RIF) of ATM, ATR, BRCA1 compared to gamma.
- Early apoptosis

Oxygen - beam irradiation



Oxygen-irradiated cells showed:

- An RBE of 3 at 20% survival
- Differences in DNA damage response with equitoxic doses of low LET radiation