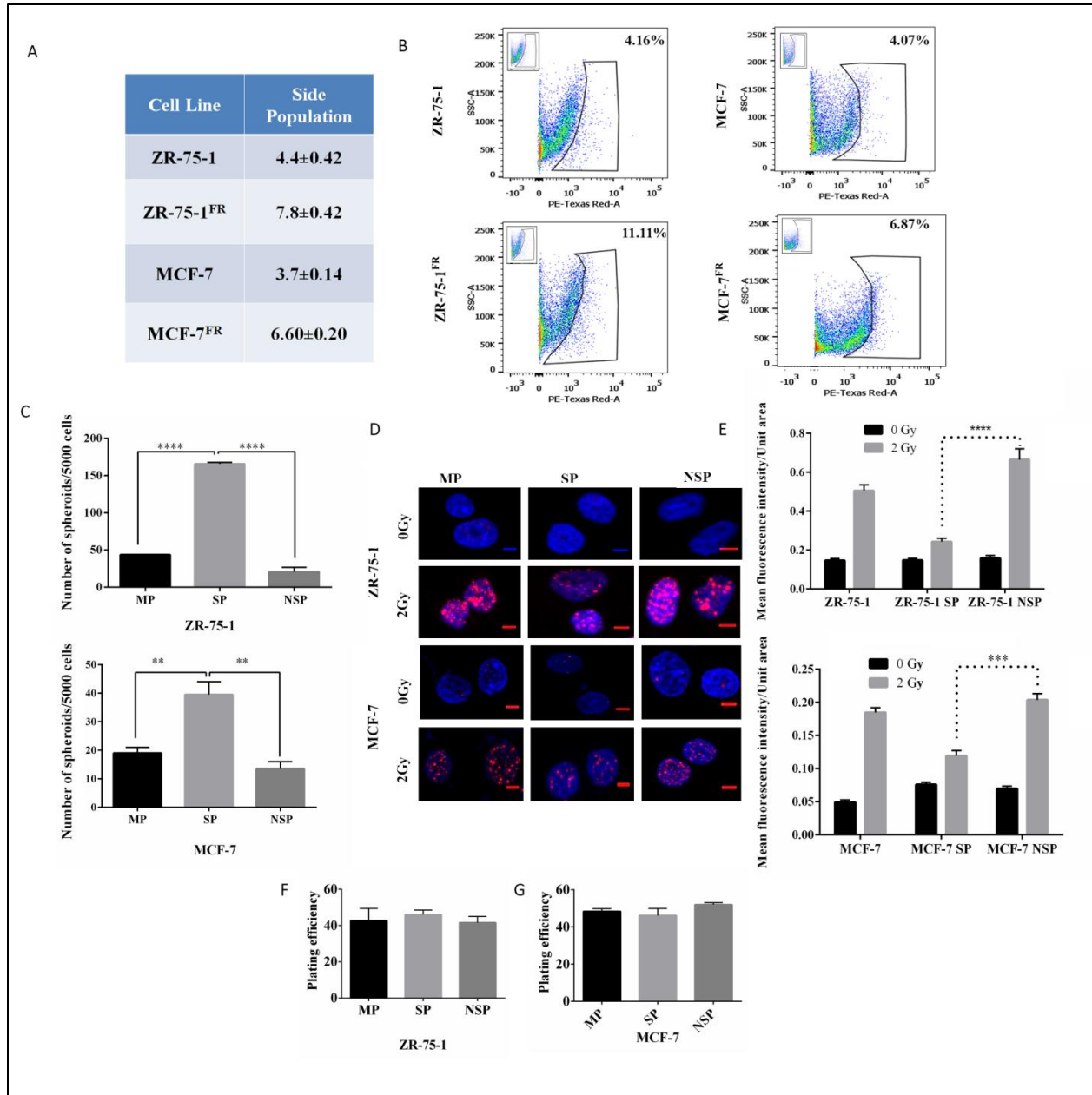


Supplementary Figure-1- A Immunofluorescence photomicrograph of F-Actin staining (green) of ZR-75-1, MCF-7 cells and their radioresistant counterparts. Scale bar- 10μm. **B**- Bar graph showing the plating efficiency. **C**- Bar graph showing the quantification of γ H2AX level in MCF-7 and MCF-7^{FR} cells. **D**- Immunofluorescence photomicrograph of γ H2AX foci in ZR-75-1 cells and ZR-75-1^{FR} cells at different time points post 2Gy irradiation. Red- γ H2AX foci and Blue-DAPI (Scale bar-5μm). **E**- Line graph represents the quantification of γ H2AX level from panel D. Statistical significance between the two groups was determined by Anova.



Supplementary Figure-2-A- Table showing the level of CSC sub-population identified by side population assay. **B-** Dot plot showing the level of ALDH positive cells in ZR-75-1, MCF-7 cells and their radioresistant counterpart. Inset dot plot shows the level of ALDH positive cells in presence of DAEB. **C-** Graph showing the number of spheroids formed by SP, MP and NSP of ZR-75-1 and MCF-7 cells. **D-** Immunofluorescence photomicrograph of γ H2AX foci in MP, SP and NSP of ZR-75-1 and MCF-7, 1 hour post 2Gy irradiation, where red indicates γ H2AX foci, and blue indicates DAPI (Scale bar-10 μ m). **E-** Bar graph represents the quantification of γ H2AX

level from panel D. **F, G**- Bar graph showing the plating efficiency of ZR-75-1 and MCF-7 cells. Statistical significance of data in C and E is determined by Student's t-test. *- $P < 0.01$, ***- $P < 0.001$, ****- $P < 0.0001$

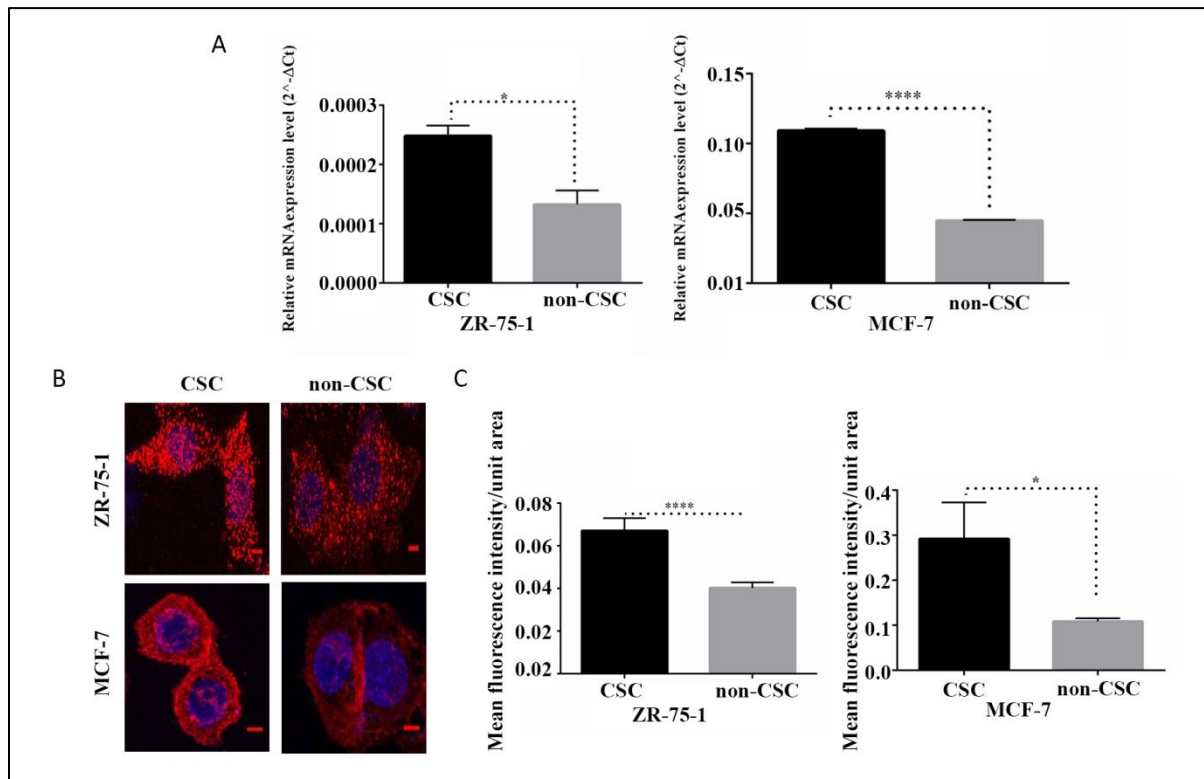
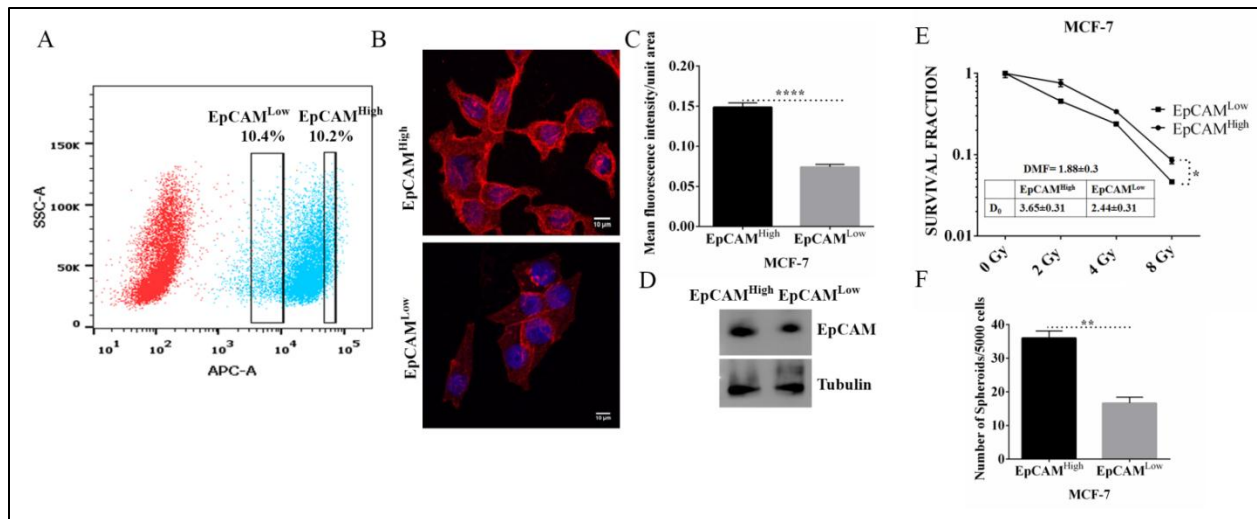
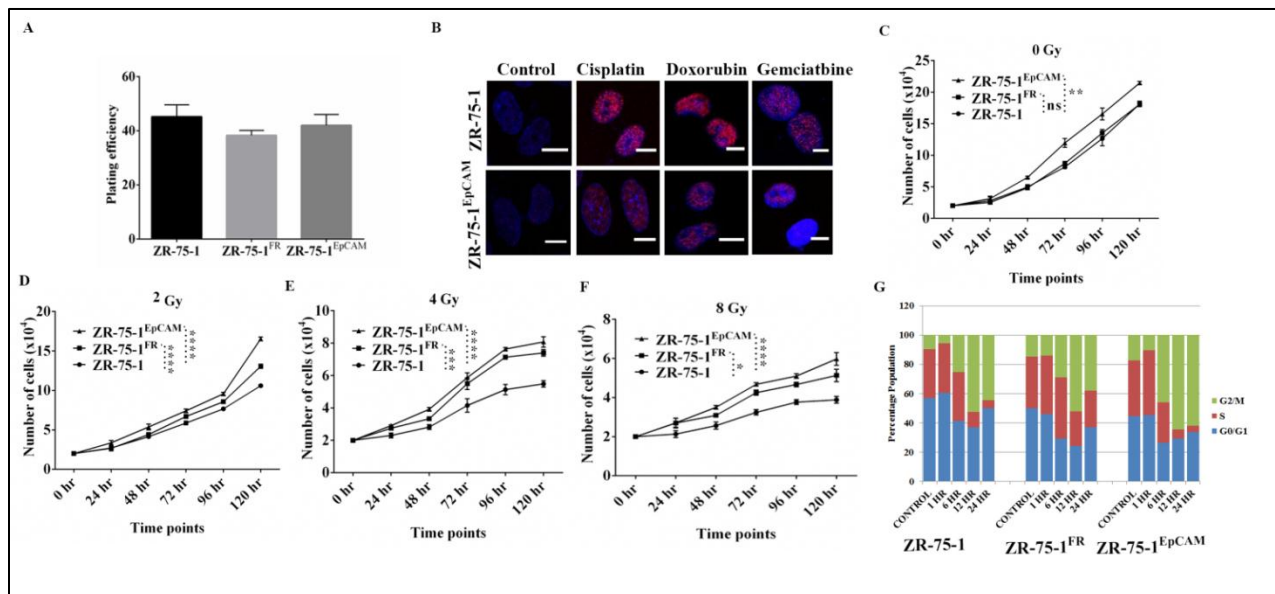


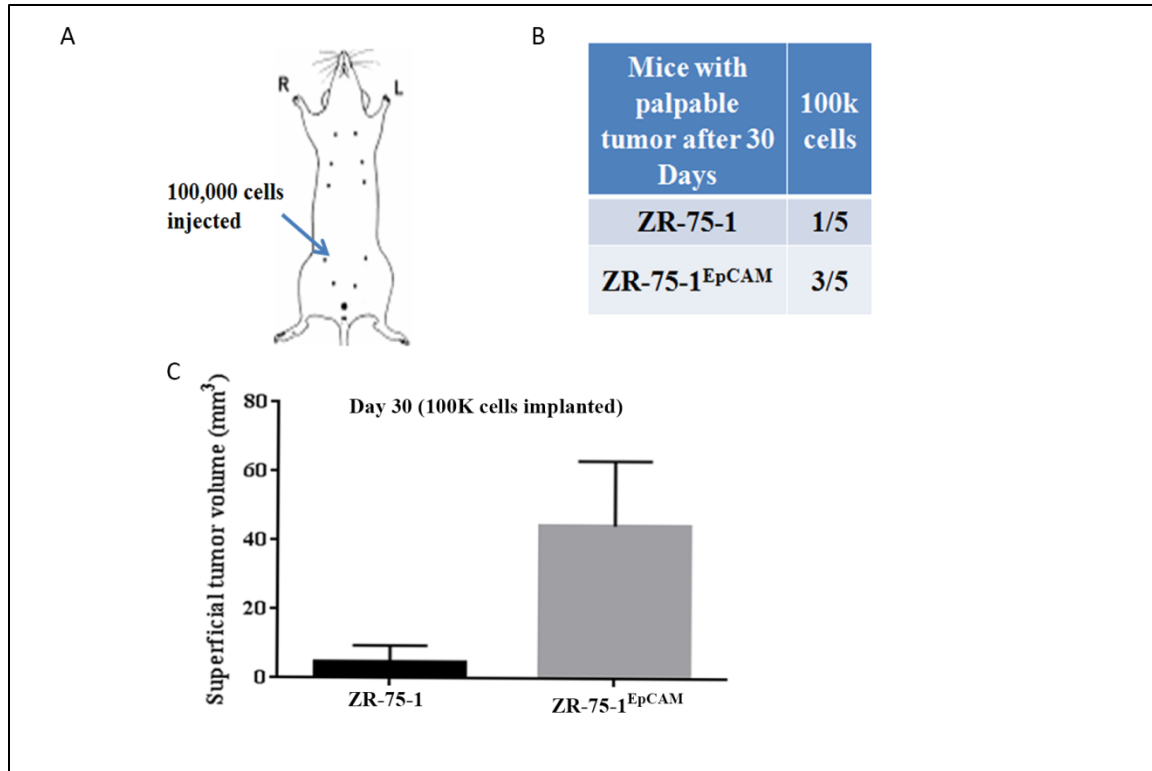
Figure 3- **A**- Graph representing the relative level of EpCAM mRNA to that of housekeeping gene GAPDH in CSC (SP) and non-CSC (NSP) of ZR-75-1 and MCF-7. **B**, **C**- Immunofluorescence photomicrograph and graphical representation of the level of EpCAM (red) in CSC and non-CSC of ZR-75-1 and MCF-7 where nucleus is represented in blue. Scale bar -5 μ m. Statistical significance of data in A and C is determined by Student's t-test. *- $P < 0.05$, ****- $P < 0.0001$



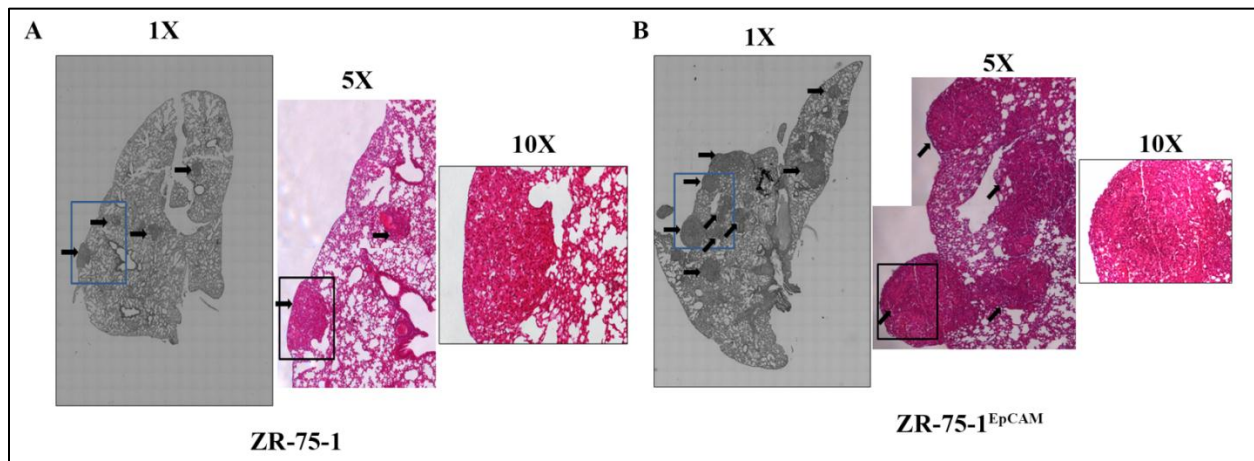
Supplementary figure 4-A-Dot plot showing the distribution of MCF-7 cells based on the EpCAM detected using flowcytometry. The dot plots in red show the secondary control, while one in blue show the positive control. Cells isolated as EpCAM^{Low} and EpCAM^{High} is shown in black box. **B,C**- Immunofluorescence photomicrograph and graphical representation of the level of EpCAM(red) in EpCAM^{Low} and EpCAM^{High} population of MCF-7 cells where nucleus is represented in blue. Scale bar -10µm. **D** -Semi-quantitative western blot showing expression level of EpCAM in EpCAM^{Low} and EpCAM^{High} population of MCF-7 cells. **E**- Comparison of survival fraction between EpCAM^{Low} and EpCAM^{High} population of MCF-7 cells against different doses of radiation. Inset table indicates radio-resistivity index (D₀ value) for each. The dose modifying factor(DMF) is also mentioned in inset. Statistical significance of data in C, E and F is determined by Student's t-test. *- P<0.05, **- P<0.01, ****- P<0.0001



Supplementary Figure-5-A- Bar graph showing the plating efficiency of ZR-75-1, ZR-75-1^{FR} and ZR-75-1^{EpCAM} cells. **B-** Immunofluorescence photomicrographs of γ H2AX foci in ZR-75-1 and ZR-75-1^{EpCAM} cells after treatment with doxorubicin, cisplatin and gemcitabine for 24 hours. Scale bar is 10 μ m. **C-F** Line graph showing the growth curve without irradiation and on 2Gy, 4Gy and 8Gy irradiation, respectively. **G-** Cell cycle analysis of ZR-75-1, ZR-75-1^{FR} and ZR-75-1^{EpCAM} cells at different time points, post 10Gy irradiation. Statistical significance of data in C-F is determined by Anova. * - $P < 0.05$, ** - $P < 0.01$, *** - $P < 0.001$, **** - $P < 0.0001$



Supplementary Figure-6-A- Diagram showing the injection of cells. 100,000 ZR-75-1 and ZR-75-1^{EpCAM} cells were injected in the mammary fatpad. **B**- Table showing the number of mice in which there is palpable tumor after 30days. **C**- Graph representing the volume of tumor (from panel B).



Supplementary Figure-7- Representative photomicrograph image of lungs of mice belonging to ZR-75-1 tumor group (**A**) and ZR-75-1^{EpCAM} tumor group (**B**). The images are in 1X magnification. A part of 1X, which is marked with blue box, is further imaged at 5X

magnification. A part of 5X image marked with black box was also further imaged at 10X magnification. The black arrows denote the secondary metastasis within the lung.