

Supplementary data

A

Material and Methods

Equations (A1)

Linear Quadratic Model

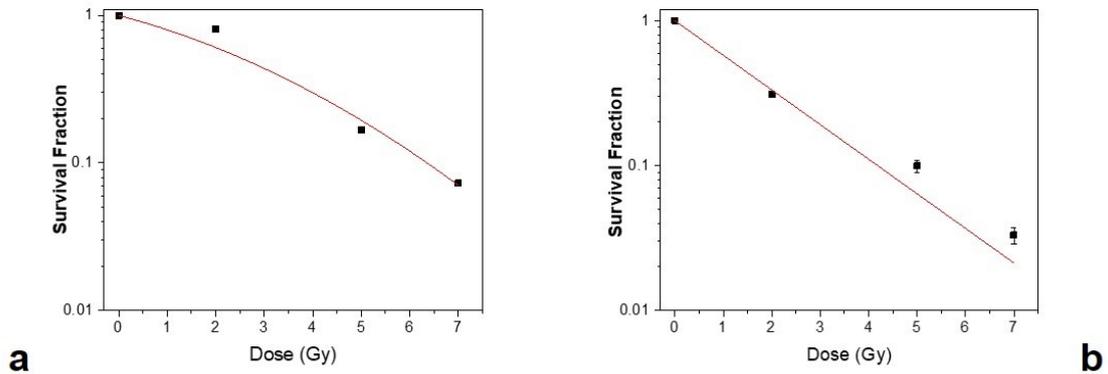
$$SF = e^{-(\alpha D + \beta D^2)}$$

Where:

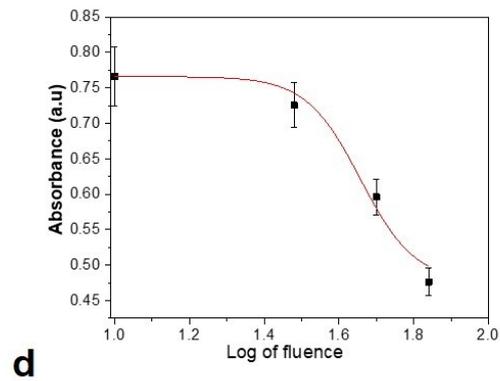
SF = Surviving fraction of the cells;

α and β = Linear and the quadratic components, respectively

D= Deposited dose

B**Results**

Beam	α (Gy ⁻¹)	β (Gy ⁻²)
X-rays	0.20 ± 0.11	0.02 ± 0.002
c Protons	0.55 ± 0.37	-



Supplementary material 1- Survival fraction of MDA-MB-231 fitted with the linear quadratic model with doses of 0, 2, 5 and 7 Gy for: **a)** X-rays and **b)** H⁺ treatments; **c)** α and β coefficients for both types of radiations; **d)** *Dose X response* curve (obtained from MTS absorbance) fitted by four-parameter logistic model for definition of PDT protocol using fluences of 10, 30, 50 and 70 J/cm² (shown at logarithm), with the half-maximal inhibitory fluence around 46 J/cm². Data are denoted as mean \pm SEM (n=9).