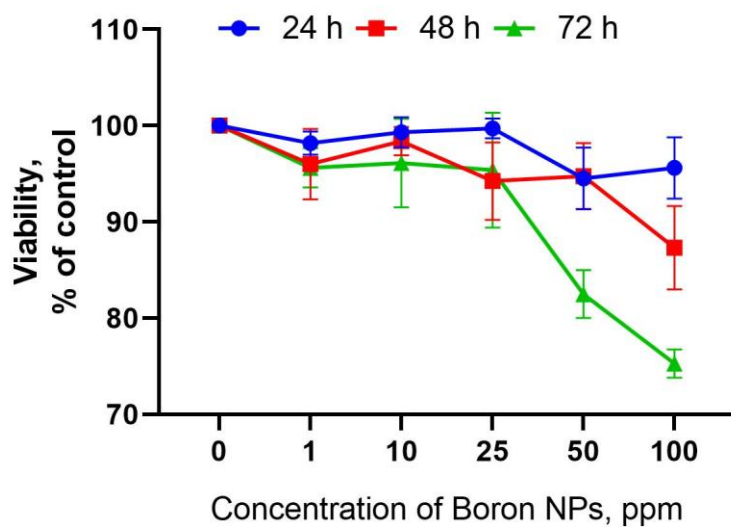
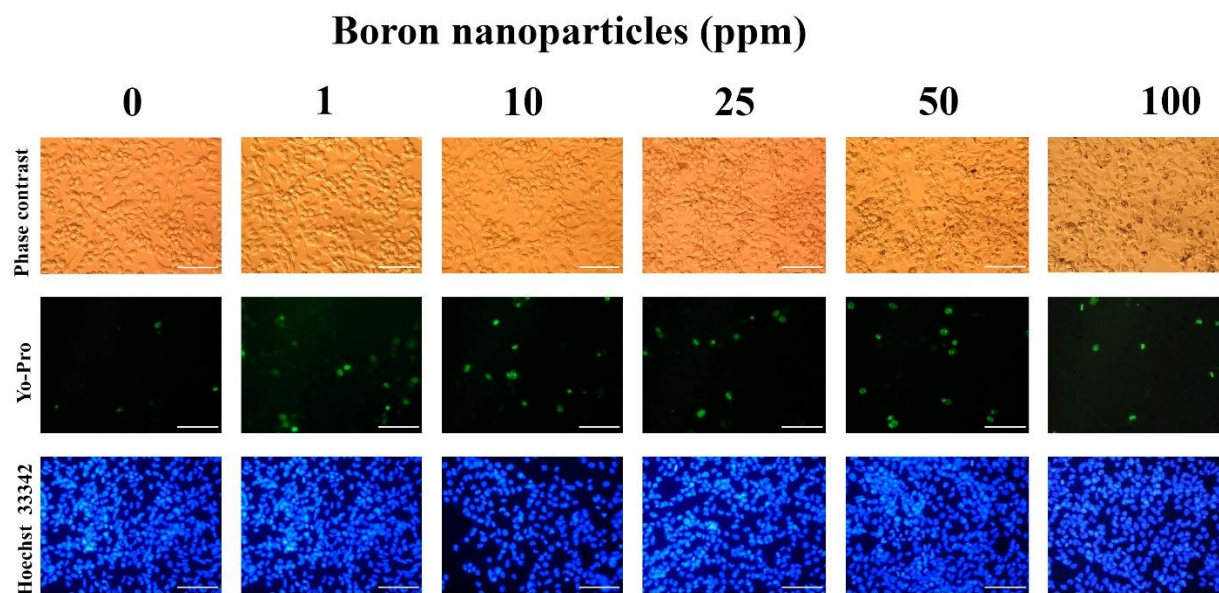


## Supplementary materials



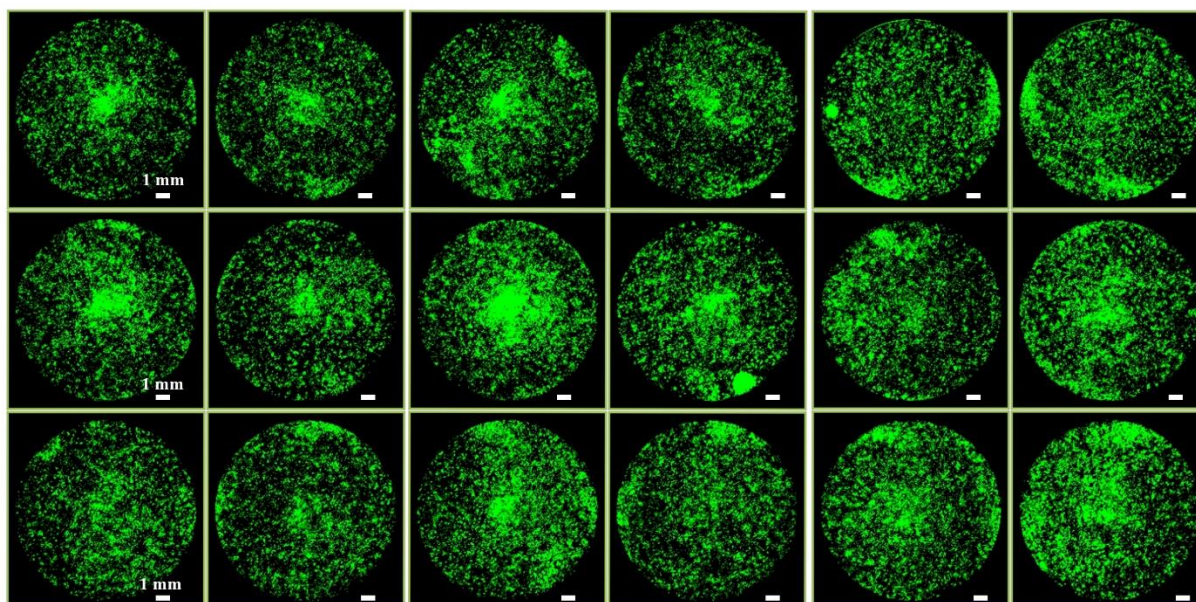
**Figure S1.** Cell viability via MTT assay after 24, 48 and 72 hours of incubation with boron nanoparticles.



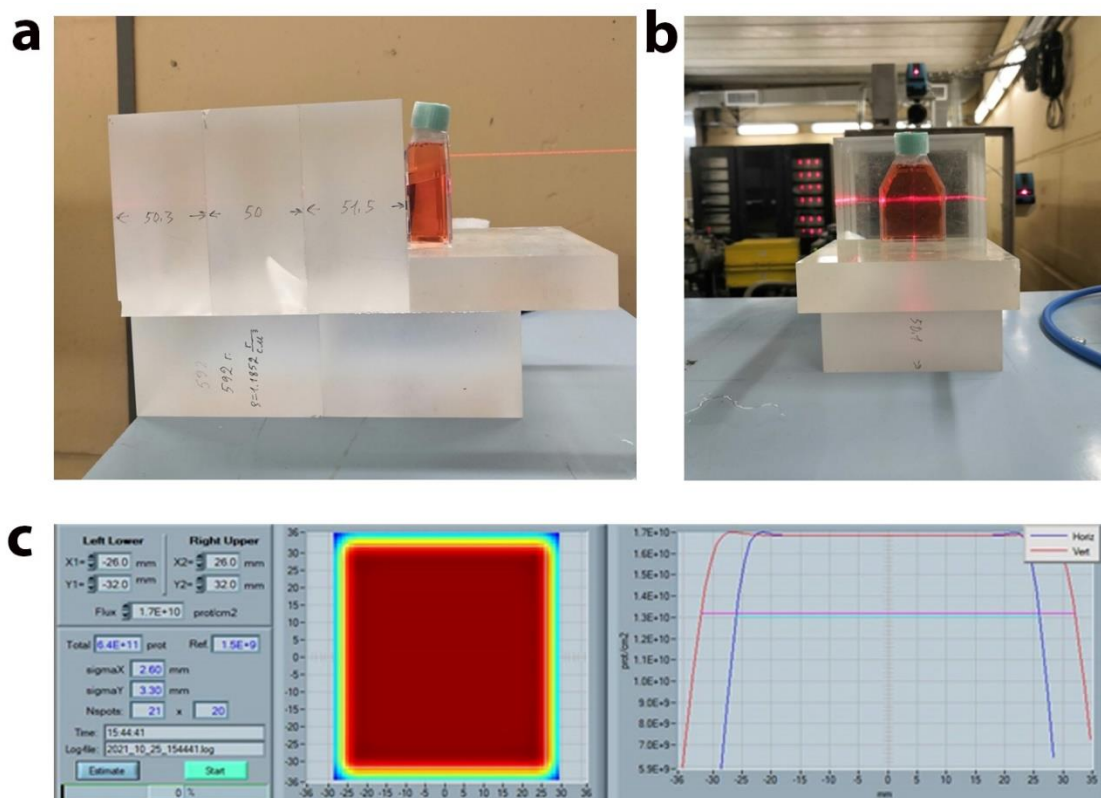
**Figure S2.** Analysis of cell morphology, apoptosis and Live/Dead assay 24 hours after incubation with boron nanoparticles. Scale bar—100  $\mu$ m

## Boron nanoparticles (ppm)

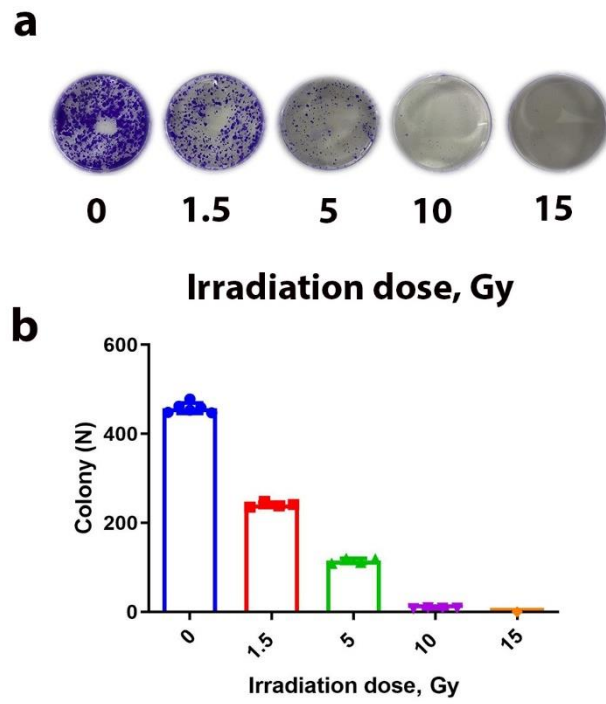
0                      1                      10                      25                      50                      100



**Figure S3.** Clonogenic assay after 24, 48 and 72 hours of incubation with boron nanoparticles. Scale bar—1 mm



**Figure S4.** Scheme of irradiation of culture flasks (**a**, **b**) and dose distribution in the module for calculating the irradiation zone with a graph of dose distribution along the central horizontal and vertical axes (**c**).



**Figure S5.** Dose-dependent response of clonogenic activity after proton beam irradiation in the Bragg peak.