

Correction

# Correction: Görte et al. Comparative Proton and Photon Irradiation Combined with Pharmacological Inhibitors in 3D Pancreatic Cancer Cultures. *Cancers* 2020, 12, 3216

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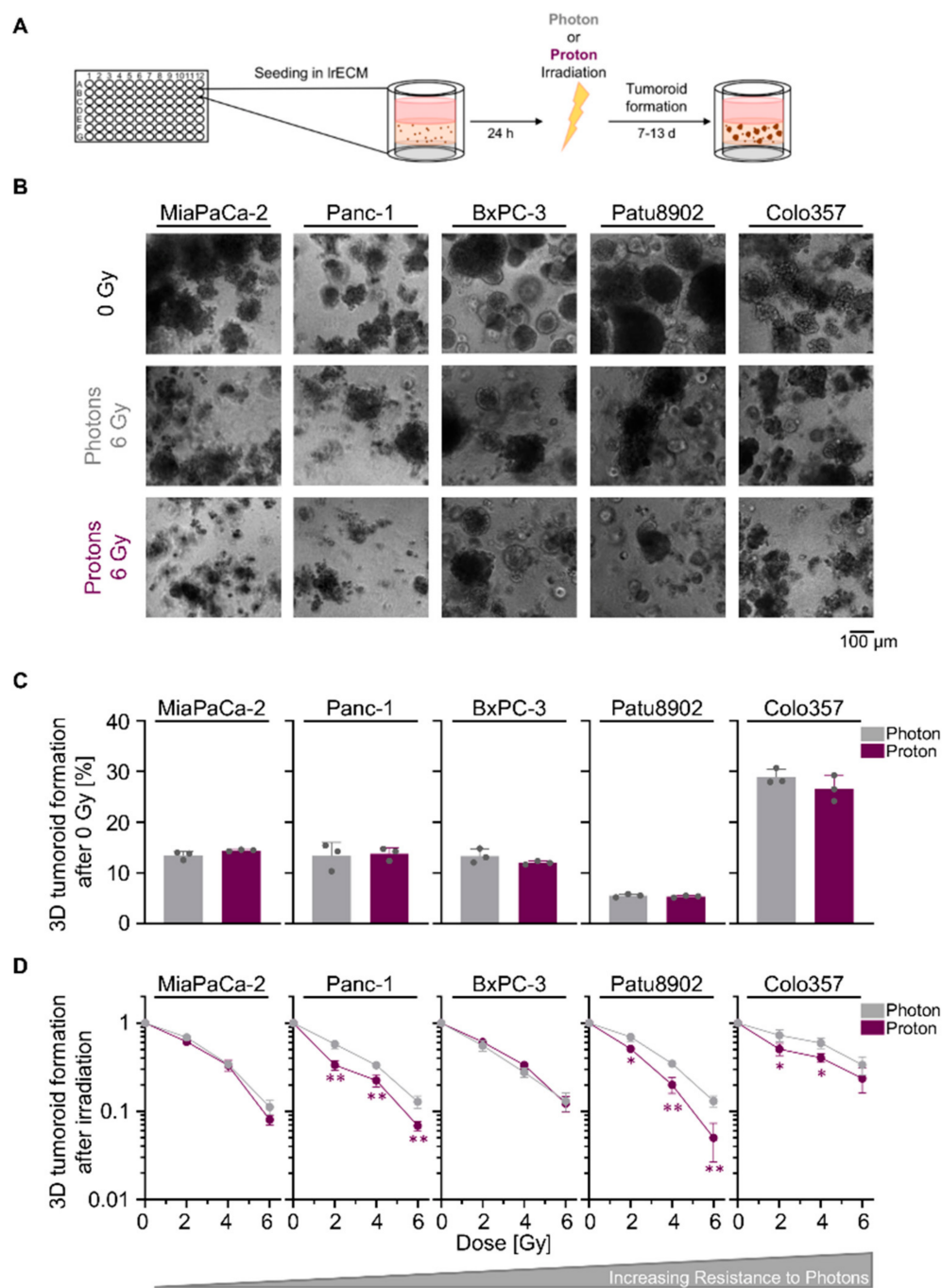
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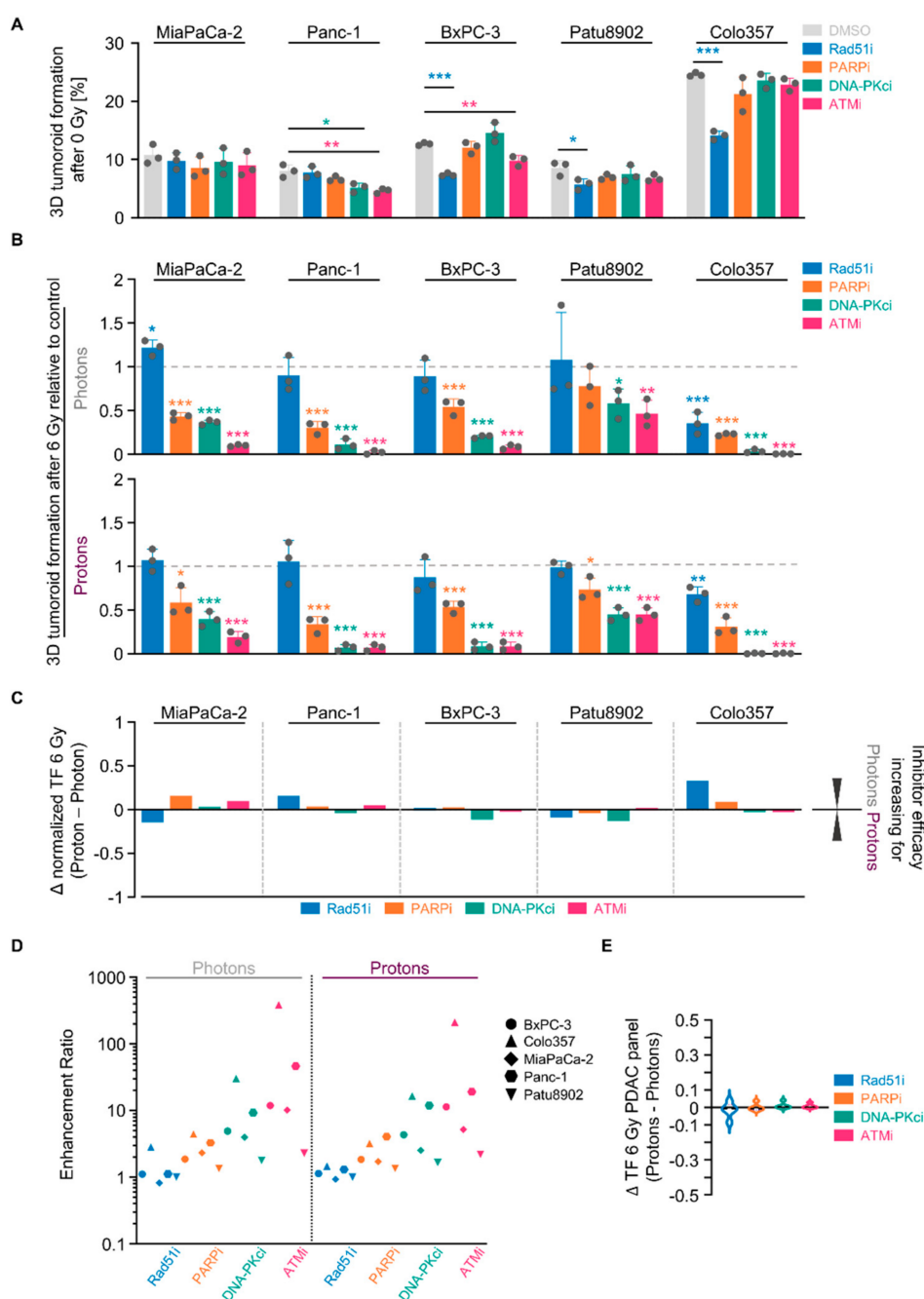
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The authors wish to make the following corrections to this paper [1]:

In the original article, there was a mistake in Figures 1, 5 and Figure S6, Tables S1 and S2 as published [1]. All results involving the cell line Capan-1 were removed. This is due to a recent microsatellite analysis that identified Capan-1 cells to be a different cell line. The manuscript was adapted accordingly, including that in the first sentence of Section 2.1, “six human PDAC cell lines” was changed to “five”; in the second sentence of Section 4.2, “Capan-1 and Colo357 cell lines” was changed to “Colo357 cell lines” only. Another mistake in indicating the cell line names was also corrected in the figure legend of Figure 5 (“Colo357 and MiaPaCa-2” was changed to “indicated PDAC cells”). The corrected Figures 1, 5 and Figure S6 and the corrected Tables S1 and S2 appear below.

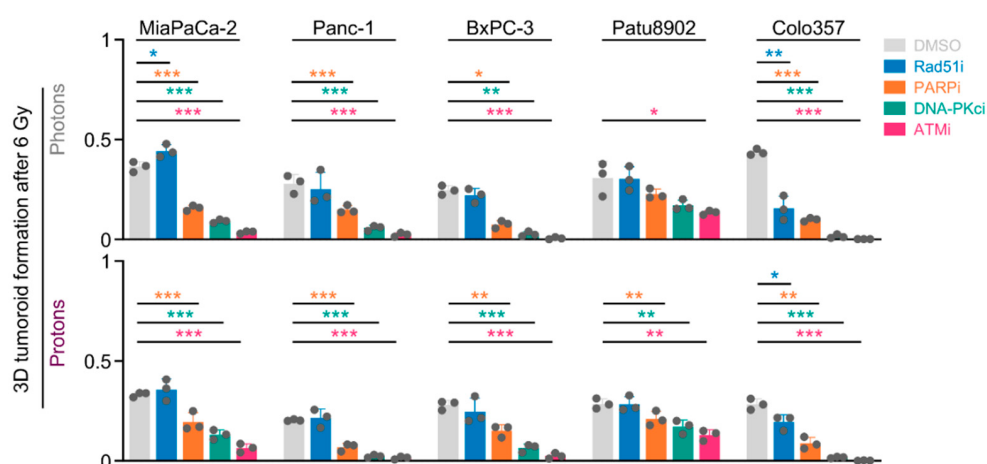


**Figure 1.** Proton irradiation tends to be more effective in reducing pancreatic ductal adenocarcinoma (PDAC) tumoroid growth than photon irradiation. **(A)** Experimental set-up for examining 3D PDAC tumoroid growth; **(B)** Representative bright-field images of unirradiated, 6-Gy photon and 6-Gy proton irradiated 3D PDAC tumoroids, scale bar: 100  $\mu$ m; **(C)** 3D tumoroid formation capacity without irradiation; **(D)** 3D PDAC tumoroid growth after irradiation with 2, 4, or 6 Gy of photons and protons. Cell lines are ordered by increasing resistance to photon irradiation. Results show mean  $\pm$  SD ( $n = 3$ ; two-sided  $t$ -test; \*,  $p < 0.05$ ; \*\*,  $p < 0.01$ ).



**Figure 5.** Targeting NHEJ-associated enzymes seems generally potent to sensitize 3D PDAC cell cultures to photon and proton irradiation. **(A)** 3D tumoroid formation capacity of unirradiated indicated PDAC cells treated with indicated DNA repair inhibitors (experimental set-up shown in Figure S2A); **(B)** Normalized 3D PDAC tumoroid formation capacity upon 1-h inhibitor pretreatment combined with 6-Gy photon or proton irradiation; **(C)** Differences in the radiosensitizing efficacy of inhibitors visualized by  $\Delta$  values of normalized tumor formation capacity (tumoroid formation capacity after 6 Gy of protons - tumoroid formation capacity after 6 Gy of photons); **(D)** Enhancement ratio (tumoroid formation capacity after 6 Gy control treatment/tumoroid formation capacity after 6 Gy inhibitor treatment) of each cell line analyzed in B (see Figure S6) after photon and proton irradiation plotted logarithmically; **(E)** Analysis of differences in the radiosensitizing efficacy of indicated inhibitors showing violin blots of summarized  $\Delta$  values of tumoroid formation capacity from all PDAC cell lines analyzed in Figure S6. All results show mean  $\pm$  SD ( $n = 3$ ; two-sided t-test; \*,  $p < 0.05$ ; \*\*,  $p < 0.01$ ; \*\*\*,  $p < 0.001$ );  $\Delta$ : delta, TF: tumoroid formation.

The authors apologize for any inconvenience caused and state that the scientific conclusions remain unaffected. The original article has been updated.



**Figure S6.** Targeting NHEJ-associated enzymes seems generally potent to sensitize 3D PDAC cell cultures to photon and proton irradiation. Three-dimensional tumoroid formation capacity upon 1-h inhibitor pretreatment combined with 6-Gy photon or proton irradiation. All results show mean  $\pm$  SD ( $n = 3$ ; two-sided t test; \*,  $p < 0.05$ ; \*\*,  $p < 0.01$ ; \*\*\*,  $p < 0.001$ ).

**Table S1.** RBE values comparing proton to photon irradiation effectiveness in PDAC cell lines.

| Cell Line | RBE |
|-----------|-----|
| MiaPaCa-2 | 1.2 |
| Panc-1    | 1.7 |
| BxPC-3    | 0.6 |
| Patu8902  | 1.4 |
| Colo357   | 2.1 |

**Table S2.** SF2 values of PDAC cell lines after photon and proton irradiation.

| Cell Line | SF2 Gy Photon | SF2 Gy Proton |
|-----------|---------------|---------------|
| MiaPaCa-2 | 0.69          | 0.61          |
| Panc-1    | 0.58          | 0.34          |
| BxPC-3    | 0.56          | 0.61          |
| Patu8902  | 0.70          | 0.51          |
| Colo357   | 0.73          | 0.51          |

**Conflicts of Interest:** The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

## Reference

1. Görte, J.; Beyreuther, E.; Danen, E.H.J.; Cordes, N. Comparative Proton and Photon Irradiation Combined with Pharmacological Inhibitors in 3D Pancreatic Cancer Cultures. *Cancers* **2020**, *12*, 3216. [[CrossRef](#)] [[PubMed](#)]