

Potential of Peptide Receptor Radionuclide Therapy by the PARP Inhibitor Olaparib by Nonnekens et al. – Supplemental Figures

Figure S1 Effect of PARP inhibition on cell cycle distribution

Propidium iodide (PI) FACS analysis of cells at T=3 days and T=6 days after treatment. Cells were non-treated (NT), treated with ^{177}Lu -DTPA or with ^{177}Lu -DOTA-TATE and afterwards treated or not with PARPi. Three cell cycle phases can be distinguished: G1, S and G2/M. x-axes: Amount of incorporated PI (in arbitrary units) and y-axes: Number of events per incorporated PI.

Figure S2 Control survival in Ca20948 cells and U2OS cells without SSTR2 expression

(A, C) Colony forming assay in U2OS cells without the SSTR2 (A) and in Ca20948 rat pancreatic SSTR positive cells (C) treated with different doses of ^{177}Lu -DTPA or ^{177}Lu -DOTA-TATE. The percentage of surviving cells was plotted against the applied PRRT dose, measured by counting surviving colonies of two independent experiments. The error bars indicate the SEM. (B, D) Area under the curve comparison from the data in panel 3A and C. Statistics: not significant (ns), * $p < 0.1$, ** $p < 0.01$ and *** $p < 0.001$.

Figure S3 Effect of PARP inhibition on uptake of ^{177}Lu -DOTA-TATE

Quantification of the membrane-bound-, internalized- and medium fractions of ^{177}Lu -DOTA-TATE at different timepoints after treatment. After PRRT, cells were incubated without PARP inhibitor (PARPi) (left graph) or with PARPi (right graph). The overlay of both conditions can be found in the lower graph. Data is represented as percentage of total added dose (AD). The error bars indicate the SEM.

Figure S4 Effect of PARP inhibition on DSB induction

Control quantifications of cells non-treated (NT) or with PARP inhibitor (PARPi). Error bars indicate the SEM and statistics represent the comparison between ^{177}Lu -DOTA-TATE and ^{177}Lu -DOTA-TATE + PARPi. Not significant (ns), * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$. (A) Quantification of the number of EdU positive cells belonging to Figure 2B. (B) Quantification of 53BP1 foci belonging to Figure 4B. (C) Quantification of the number of cells with micronuclei belonging to Figure 4E.

Figure S5 Effect of PARP inhibition on micronuclei formation after PRRT.

Detailed quantification of the number of micronuclei per cell (belonging to Figure 4E). Cells were non-treated (NT), treated with ^{177}Lu -DTPA or with ^{177}Lu -DOTA-TATE and afterwards treated (C, E, G, I, K, M) or not (A, B, D, F, H, J, L) with PARP inhibitor (PARPi).

Figure S1

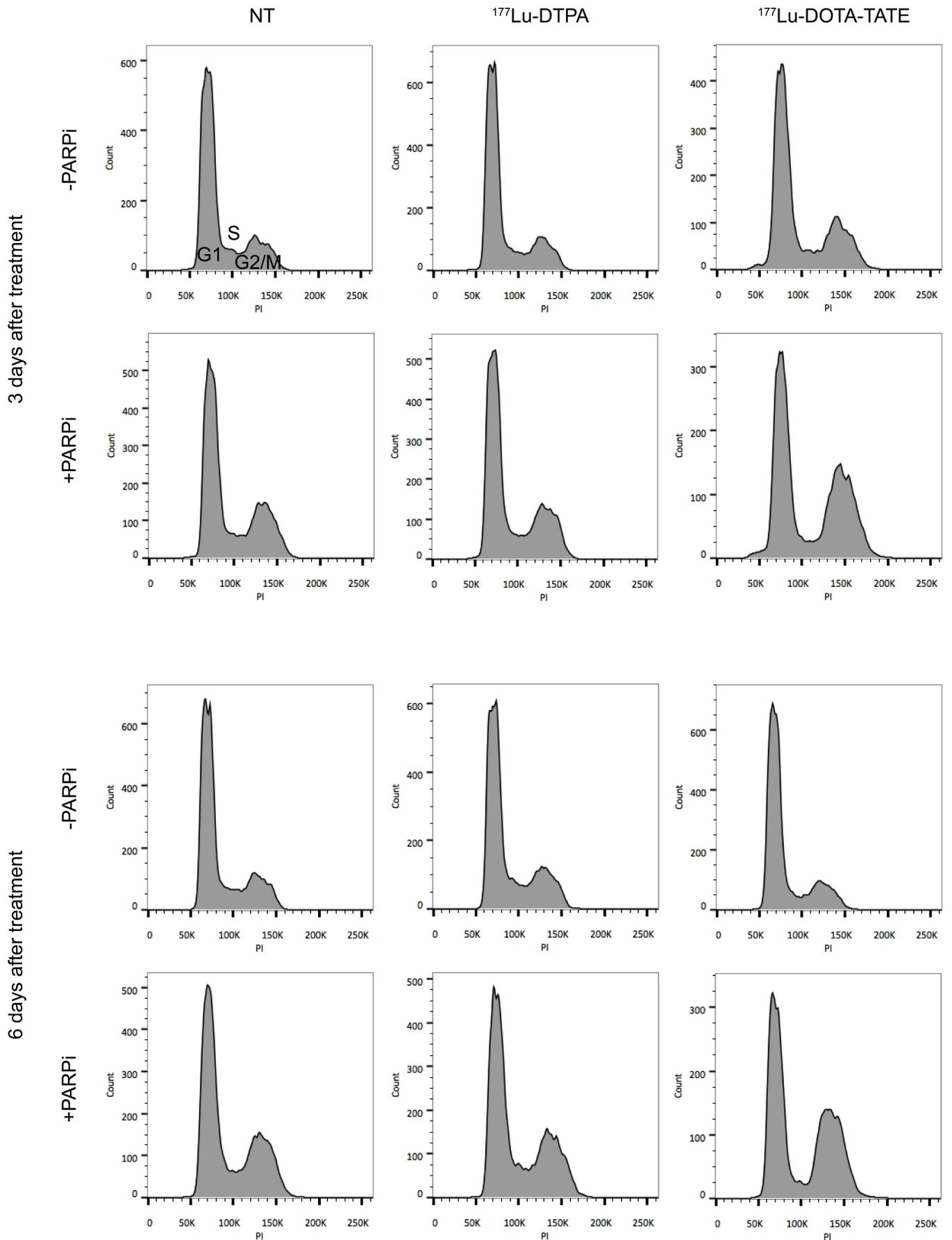


Figure S2

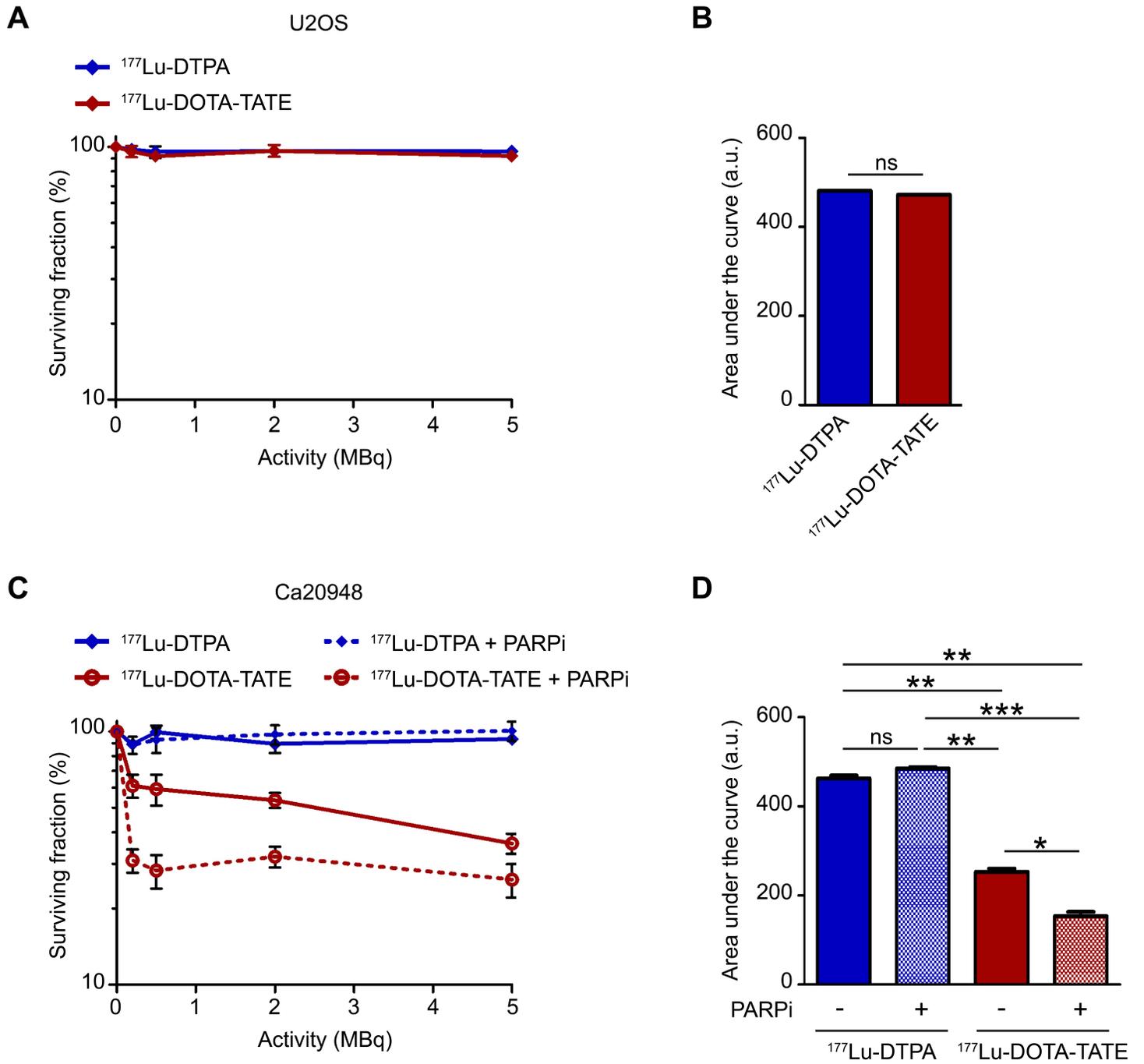


Figure S3

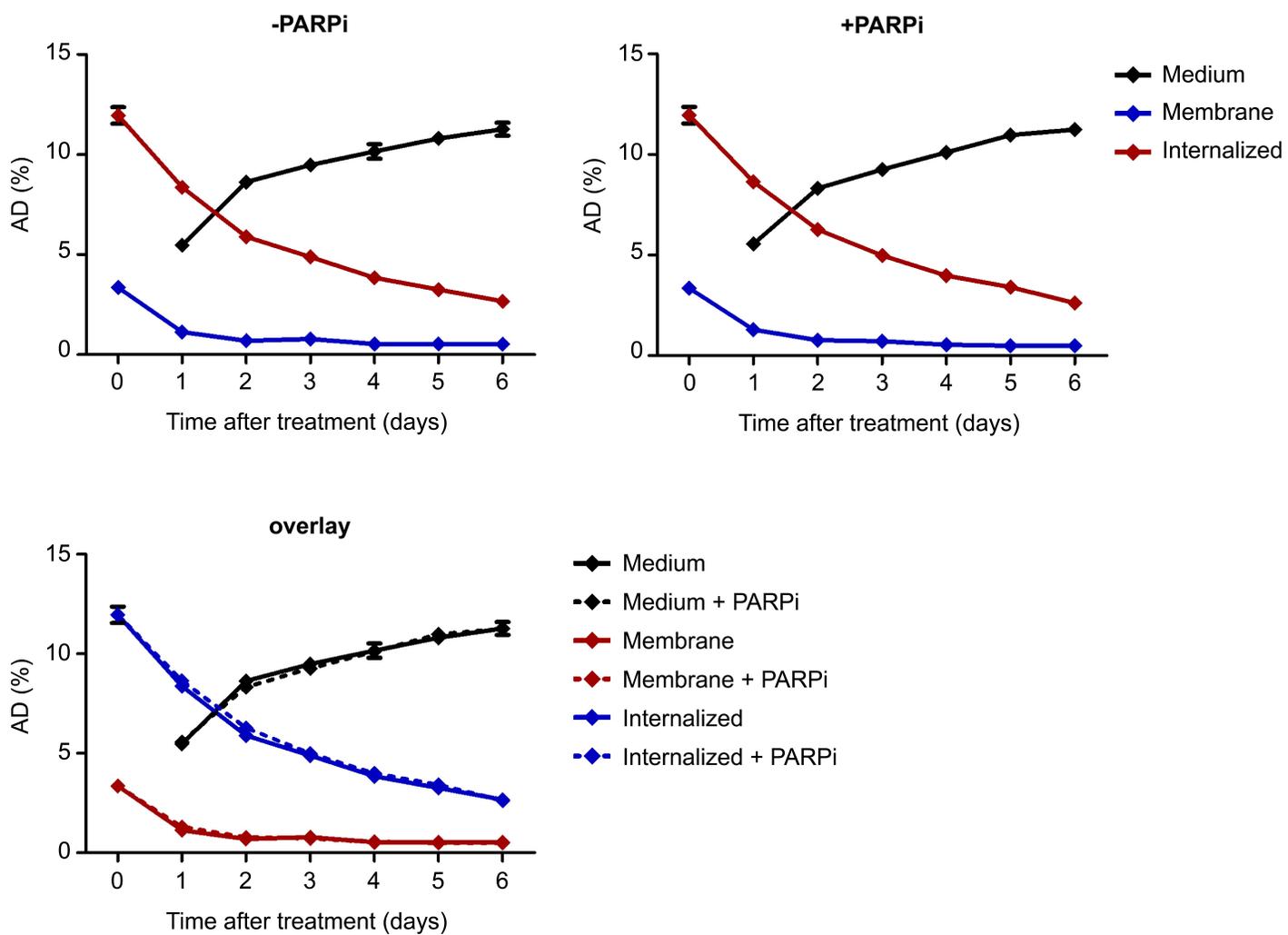


Figure S4

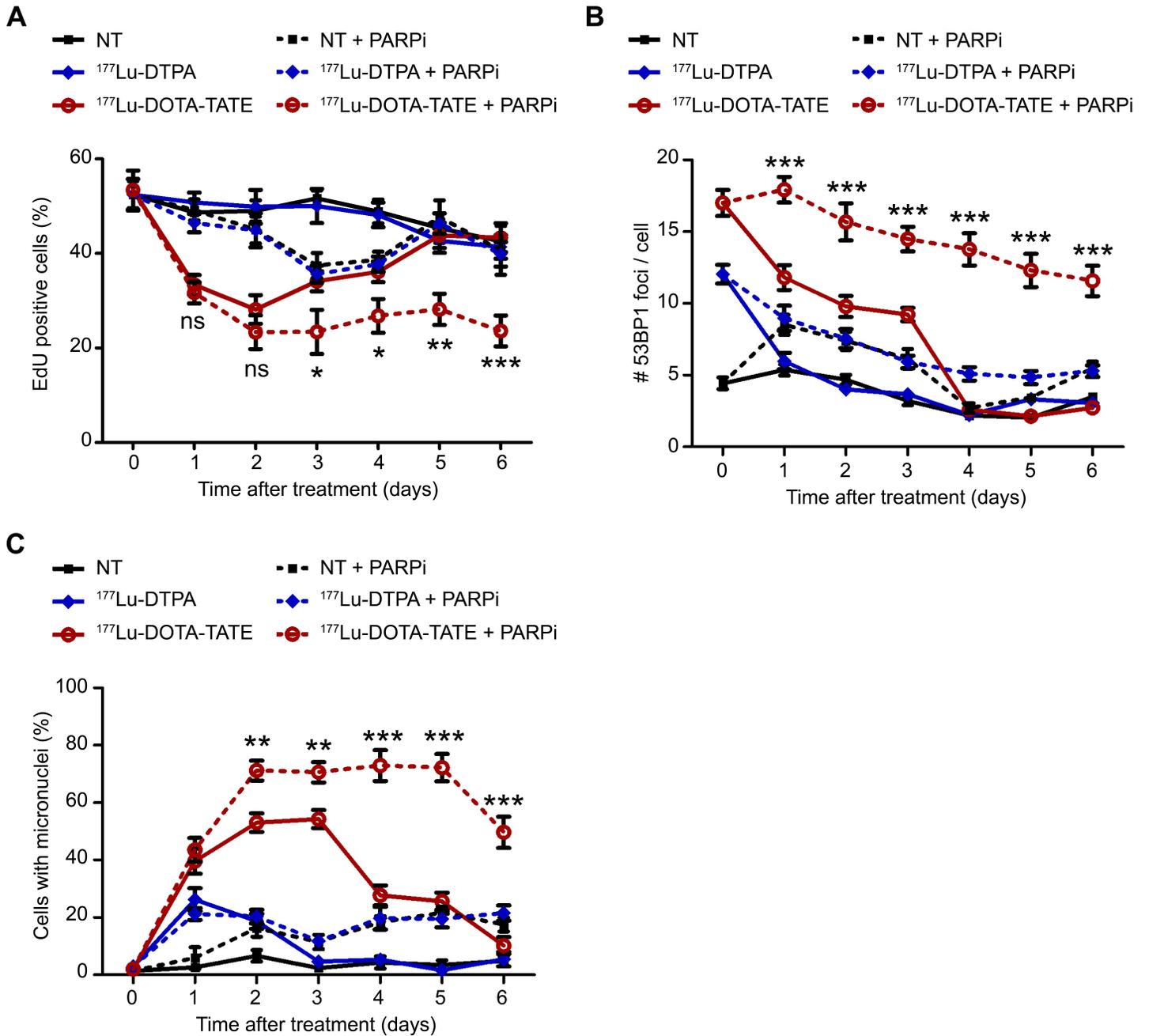


Figure S5

