

Fig. S1. The overexpression of Cyclin Y facilitates lung cancer cell growth and proliferation *in vitro*. (A) A549 and H1299 cells were transfected with the Myc-Cyclin Y plasmid, and samples were collected and analyzed by Western blotting (n = 3). (B) The Myc-Cyclin Y plasmid was transfected into six-well plates and cell counts were recorded every two days. *** P < 0.001 (n = 3). (C) Transfected cells were seeded in six-well plates and cultured for two weeks. The number of colonies consisting of more than 50 cells was quantified. ** P < 0.01 (n = 3). (D) EdU incorporation assays were used to assess cell proliferation. Scale bar, 50 μ m. ** P < 0.01 (n = 3).

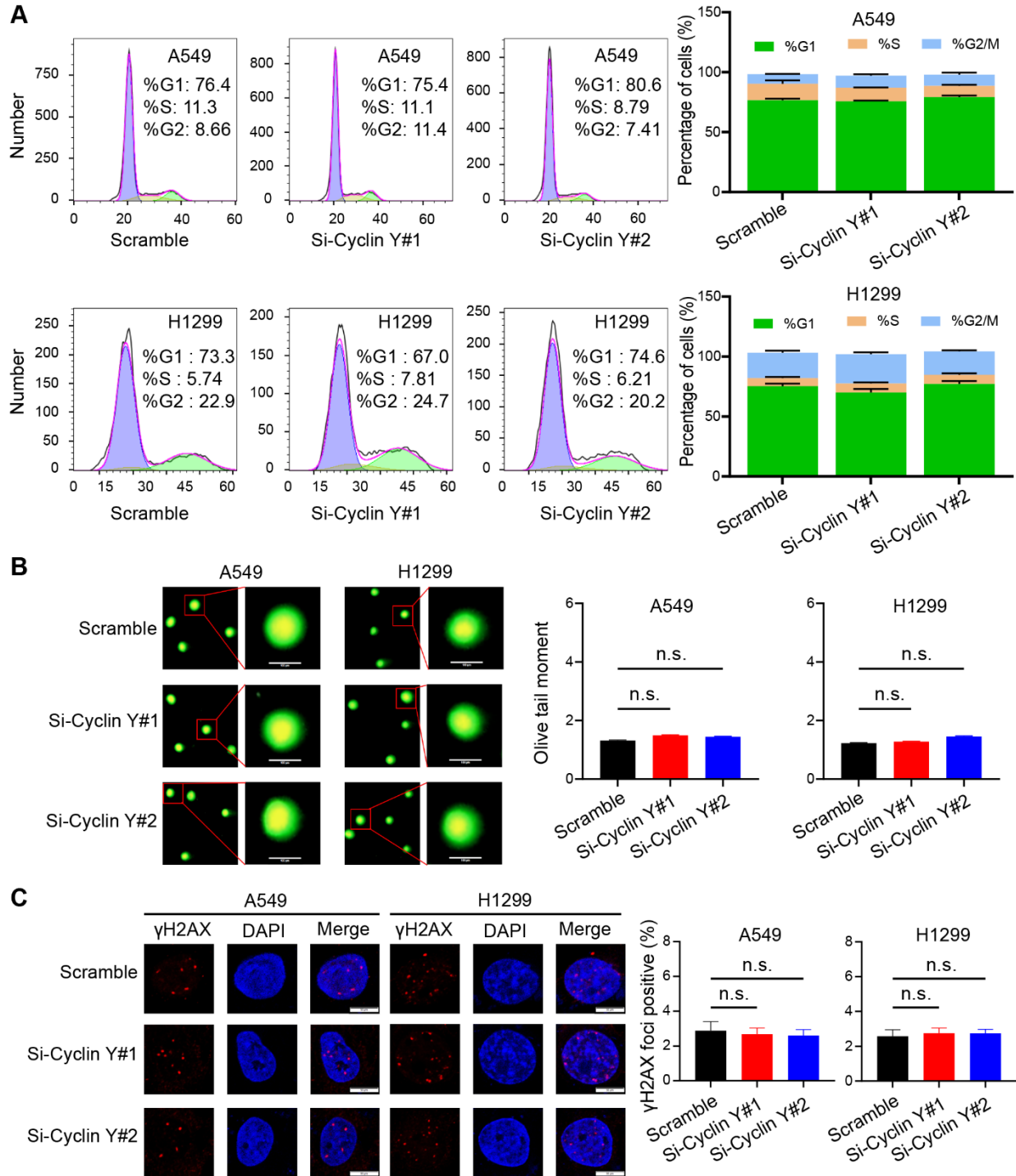


Fig. S2. Knockdown of Cyclin Y does not alter the cell cycle distribution or DNA damage levels in the absence of irradiation. (A) Cells were collected 48 h after transfection with the indicated siRNAs and analyzed by flow cytometry (n = 3). (B) The Olive tail moment was calculated and

graphed for each group ($n = 3$). Scale bar, 100 μm . n. s. indicates no statistically significant difference ($P > 0.05$). (C) Representative immunostaining images of γH2AX foci ($n = 3$). Scale bar, 50 μm .

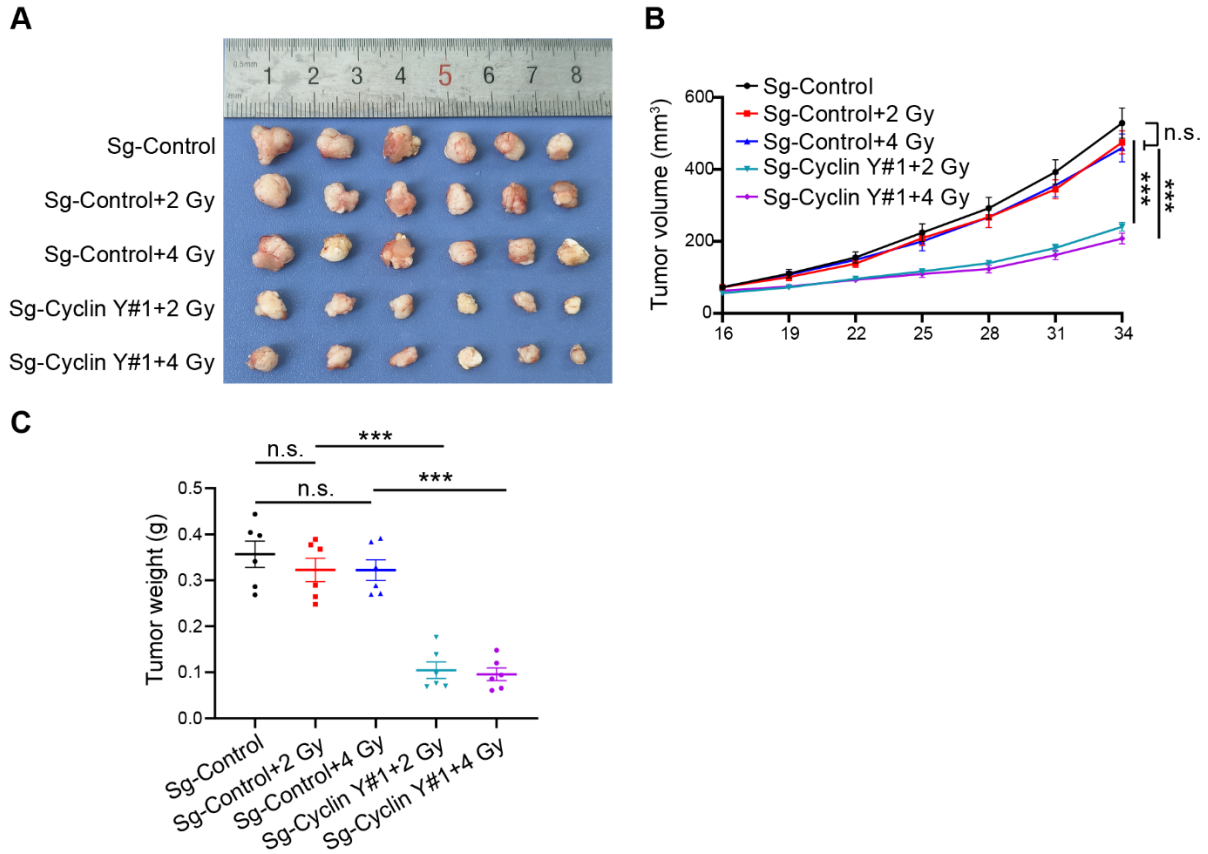


Fig. S3. Cyclin Y depletion increases radiosensitivity in lung cancer *in vivo*. (A) Representative image of xenograft tumors in the five groups. When the tumor volume reached an average calculated volume of 100 mm³, the mice were exposed to a radiation dose of 2 Gy or 4 Gy (six mice/group). (B) The growth curves for each group are presented. The data are plotted as the mean tumor volumes \pm SEMs. *** P < 0.001 (six mice/group). (C) The wet weights of the tumors in the five groups were measured (six mice/group). *** P < 0.001 (six mice/group).

Genes	Sequences (5'--3')
RRM2	F: GTGGAGCGATTTAGCCAAGAA R: CACAAGGCATCGTTTCAATGG
MCM6	F: GAGGAACTGATTCGTCCTGAGA R: CAAGGCCCGACACAGGTAAG
RFC3	F: ATGCCTTGCGAAGAACCA R: GAACCGCCAAGCACCTAC
SMC2	F: ACAGTAACAAGGCAGGTG R: ATGATGAGAAAGTGAGGGT
CHK1	F: GACAGAATAGAGCCAGACA R: TTATCCCTTTCATCCAAC
Cyclin Y	F: GTTCTCCCGGTCGCTGAT R: CTCGTGCTGCGTGTCGTC
GAPDH	F: GAGTCAACGGATTTGGTCGT R: GACAAGCTTCCCGTTCTCAG

F, forward primer; R, reverse primer

Supplemental Table S1. Sequences of primers used for real-time quantitative PCR