


**Figure S1.** Western blot analysis of CPS1 protein levels in A549 cells at 8 and 24 hours post-ionizing radiation.

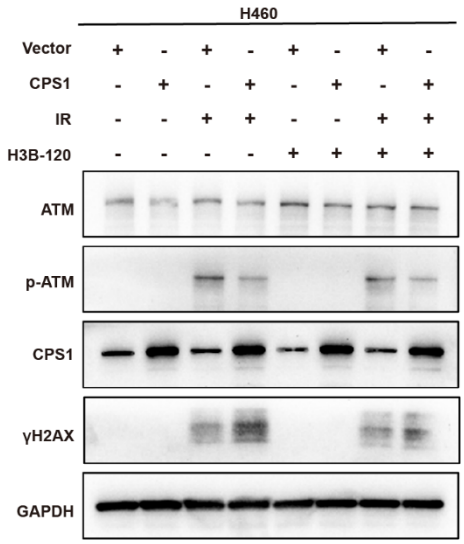



**Figure S2.** H460 cells were pretreated with 10 μM CPS1 inhibitor H3B-120 for 48 hours preceding 8 Gy ionizing radiation exposure, with protein lysates harvested at 2h post-irradiation and subjected to Western blot analysis.

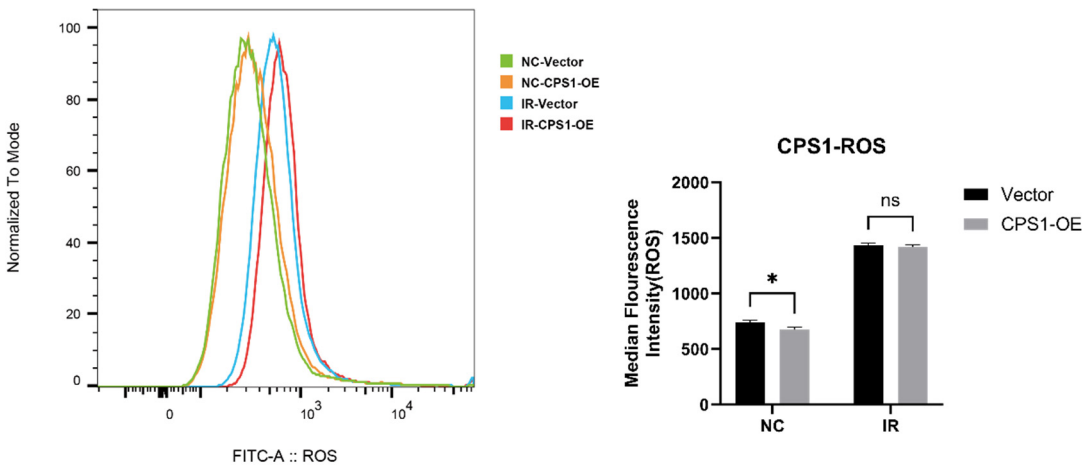



**Figure S3.** Flow cytometric quantification of ROS levels using DCFH-DA fluorescent probe in CPS1-overexpressing A549 cells at 4 hours post-8 Gy ionizing radiation. n=3,

* $p < 0.1$ by two-way ANOVA.

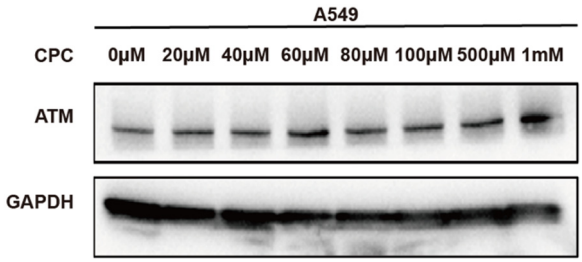



**Figure S4.** Western blot analysis of ATM protein levels in A549 cells treated with varying final concentrations of carbamyl phosphate disodium salt (CPC) for 72 hours.