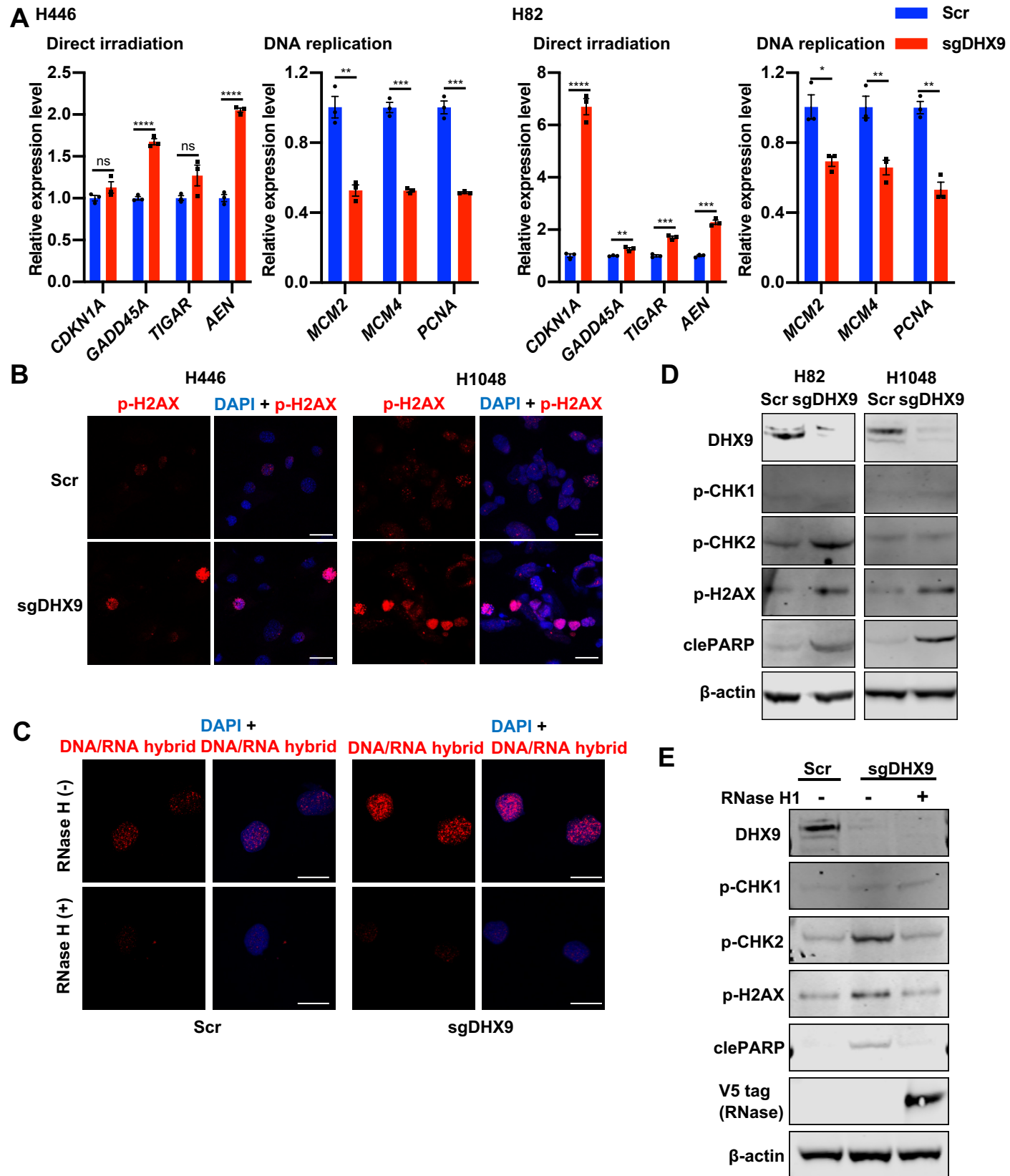
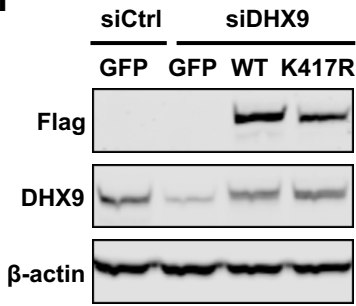


# Supplementary Figure S3

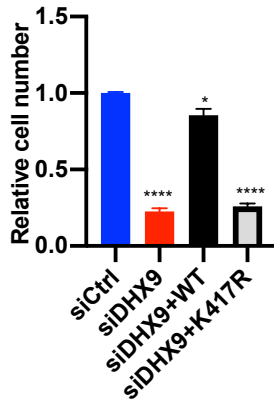


# Supplementary Figure S3 (continued)

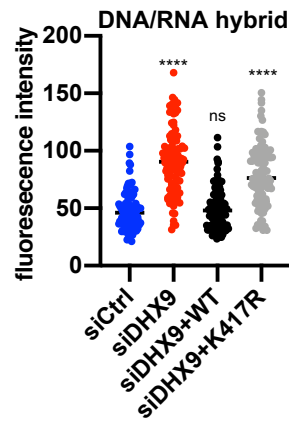
**F**



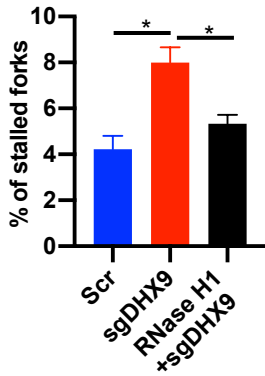
**G**



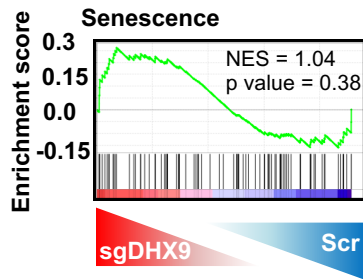
**H**



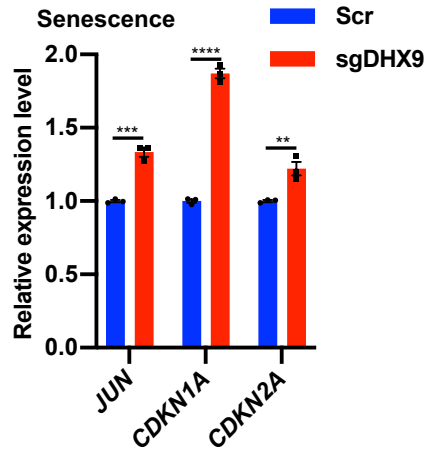
**I**



**J**



**K**



### Supplementary Figure S3.

**A**, qRT-PCR analysis of the direct irradiation response and replication-related genes comparing Scramble and sgDHX9 of H446 and H82 cells (n = 3). 36B4 gene was used as a reference. **B**, Immunofluorescence images of p-H2AX (red) staining of Scramble and sgDHX9 of H446 and H1048 cells. Scale bar = 50  $\mu$ m. **C**, Immunofluorescence images of DNA/RNA hybrid (red) staining of Scramble and sgDHX9 H196 cells, treated w/wo RNase H. Scale bar = 25  $\mu$ m. **D**, Immunoblot (IB) of the indicated proteins in Scramble and sgDHX9 of H82 and H1048 cells. **E**, Immunoblot (IB) of the indicated proteins in Scramble and sgDHX9 H82 cells, w/wo overexpression of RNase H1-V5. **F**, Immunoblot (IB) of the indicated proteins in H446 cells overexpressing 3xFlag-DHX9 (WT/K417R) or Flag-GFP, transfected with siCtrl or siDHX9-3'UTR. **G**, Relative cell number of H446 cells treated with the indicated siRNAs and expression vectors. Luminescence of CellTiter-Glo was detected on Day 4 after seeding (n = 3). **H**, Fluorescence intensity of DNA/RNA hybrid in H446 cells treated with the indicated siRNAs and expression vectors, was quantified (100 cells were counted per group). **I**, The percentage of stalled forks over the total number of different replication structures was measured (>150 labeled forks were counted per group, n = 3). **J**, GSEA analysis with C2 (curated) gene sets, based on RNA-seq results of sgDHX9 versus Scramble cells. **K**, qRT-PCR analysis of the senescence-related genes comparing Scramble and sgDHX9 H196 cells (n = 3). 36B4 gene was used as a reference. Data represent mean  $\pm$  SEM. ns, not significant; \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001, \*\*\*\*p < 0.0001 by unpaired Student's t test (A and K) and one-way ANOVA (G, H and I).