



**Supplementary Figure S4. Loss of ATR induces DNA damage in APOBEC3A-expressing cells.** **A.** Levels of  $\gamma$ H2AX in A3A<sup>WT</sup> or A3A<sup>E72A</sup>-expressing cells transfected with ATR siRNA were analyzed by Western blot. **B.** Inducible A3A<sup>WT</sup>-expressing cells were left uninduced or induced with DOX, treated with ATRi (3  $\mu$ M) for 8 h, and immunostained for  $\gamma$ H2AX and PCNA. Representative images are shown. **C.** Quantification of  $\gamma$ H2AX intensity in 4,000 cells shown in B. Cells were colored according to the intensity of  $\gamma$ H2AX staining. The same cells and quantifications were also used in Figure 1E. **D.** Quantification of  $\gamma$ H2AX and TUNEL intensities in 5,000 inducible A3A<sup>WT</sup>-expressing cells induced with DOX and treated with ATRi (3  $\mu$ M) for 8 h. TUNEL positive cells were shown in red. **E-F.** U2OS-derived cells were induced to express A3A<sup>WT</sup> or left uninduced. Cell survival was analyzed after 5 days of continuous Chk1i treatment (E), or after 1 day of Chk1i treatment followed by a 3-day release (F). Error bar: S.D. (n=3)