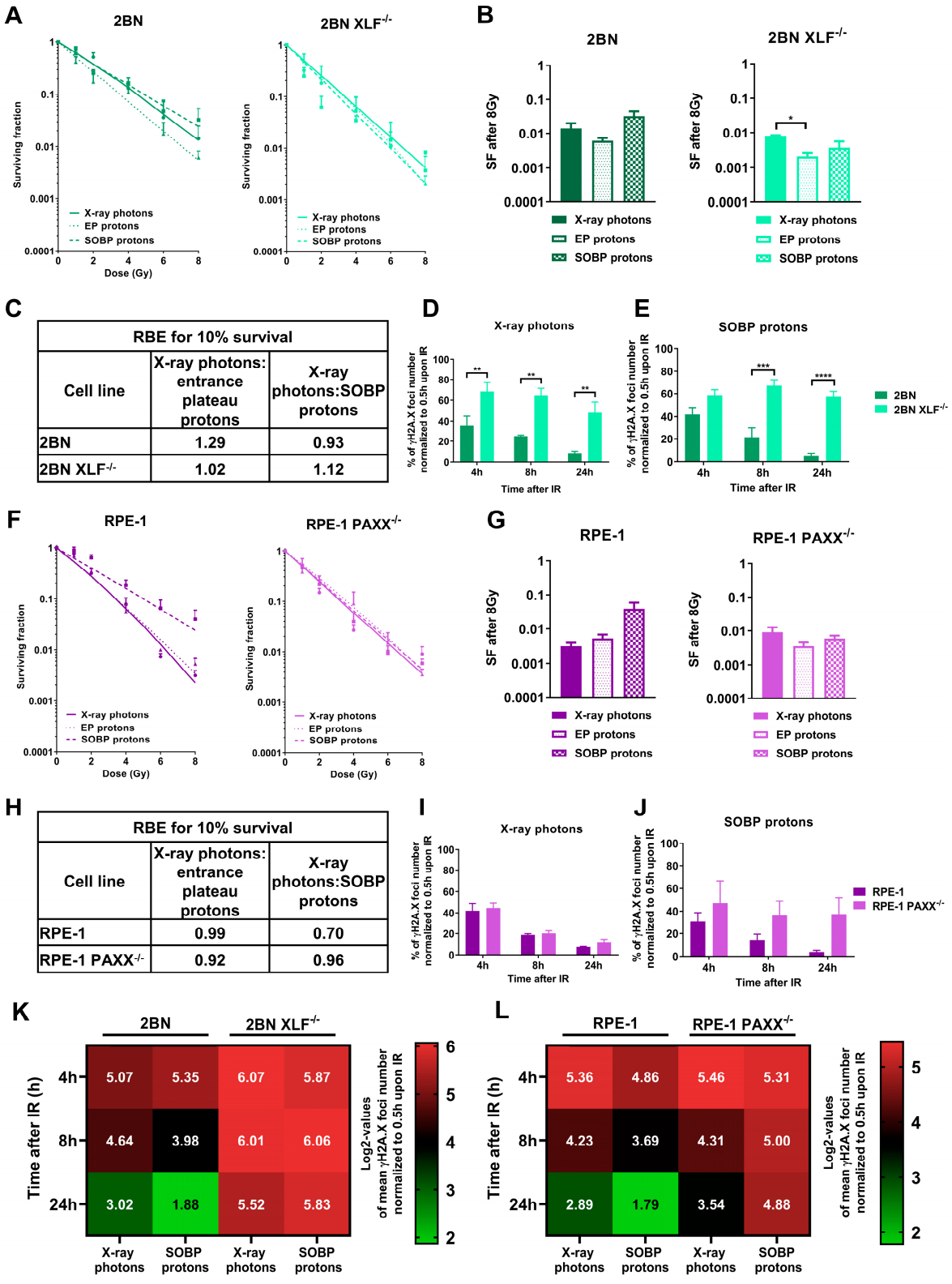

Figure S1. Clonogenic survival and DNA damage response of 2BN hTERT XLF$^{-/-}$ and RPE-1 PAXX$^{-/-}$ cells as well as respective control cells. (**A, B**) Clonogenic survival assay of 2BN hTERT XLF$^{-/-}$ cells irradiated with X-ray photons, EP and SOBP protons (1–8 Gy). (**C**) RBE values calculated for 10% survival of the indicated cell lines. (**D, E**) γH2A.X foci removal over time (4–24 h) normalized to initial foci number at 30 min in 2BN hTERT XLF$^{-/-}$ cells as well as respective control cells upon irradiation with 3 Gy of X-ray photons (**D**) and SOBP protons (**E**). (**F,G**) Clonogenic survival assay of RPE-1

PAXX$^{-/-}$ cells irradiated with X-ray photons, EP and SOBP protons (1–8 Gy). Data represent mean values ± SD from 3 independent experiments. One-way ANOVA. (**H**) RBE values calculated for 10% survival of the indicated cell lines. (**I, J**) γH2A.X foci removal over time (4–24 h) normalized to initial foci number at 30 min in RPE-1 PAXX$^{-/-}$ cells as well as respective control cells upon irradiation with 3 Gy of X-ray photons (**I**) and SOBP protons (**J**). (**K, L**) Comparison of radiation source effects in tested cell lines as log2 values of γH2A.X foci quantification. Data represent mean values ± SD (**A**,**F**) or SEM (**B**,**D**,**E**,**G**,**I**,**J**) from 3 independent experiments. One-way ANOVA with Tukey's multiple comparisons post-test (**B**,**G**) or two-way ANOVA with Tukey's multiple comparisons post-test (**D**,**E**,**I**,**J**); *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.