

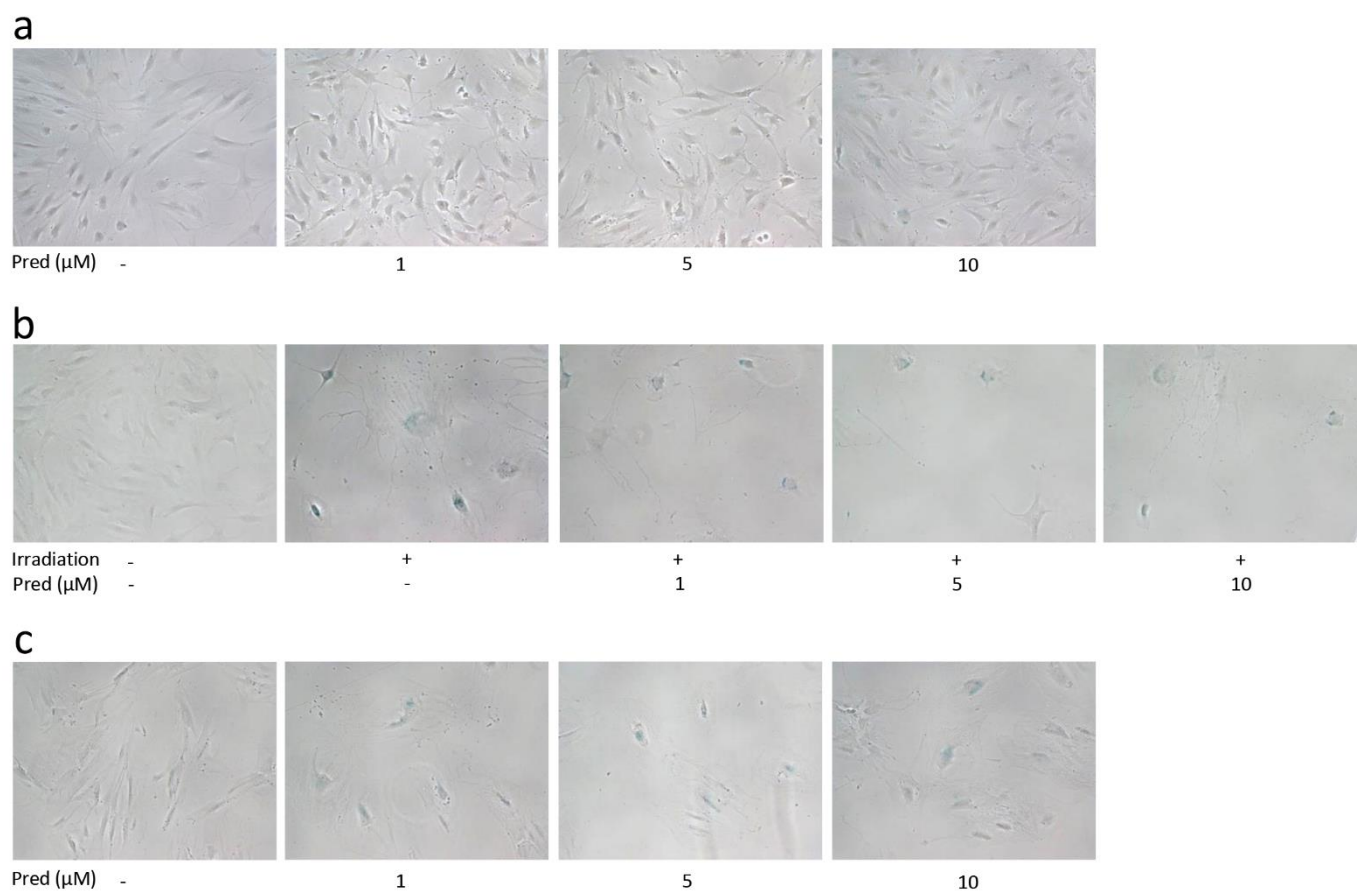


Figure S1. Representative example of β -galactosidase staining. **(a)** Effect of prednisolone on β -galactosidase staining in osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). **(b)** Effect of prednisolone on β -galactosidase staining in irradiated osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). **(c)** Effect of prednisolone on β -galactosidase staining in mesenchymal stem cells (cells recovering after 8 days).

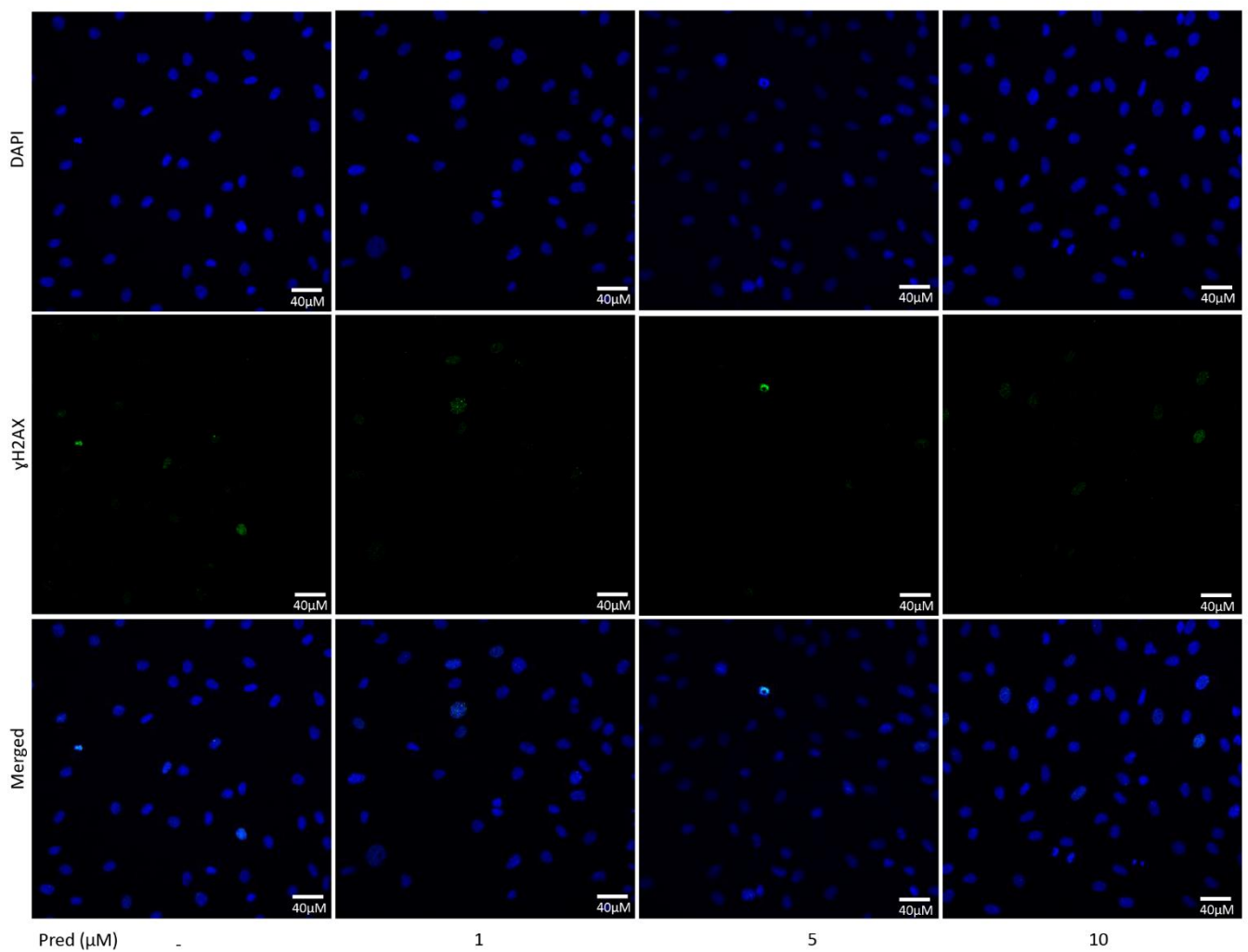


Figure S2. Influence of prednisolone on DNA damage in osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). Representative pictures of DNA damage with γ H2AX staining.

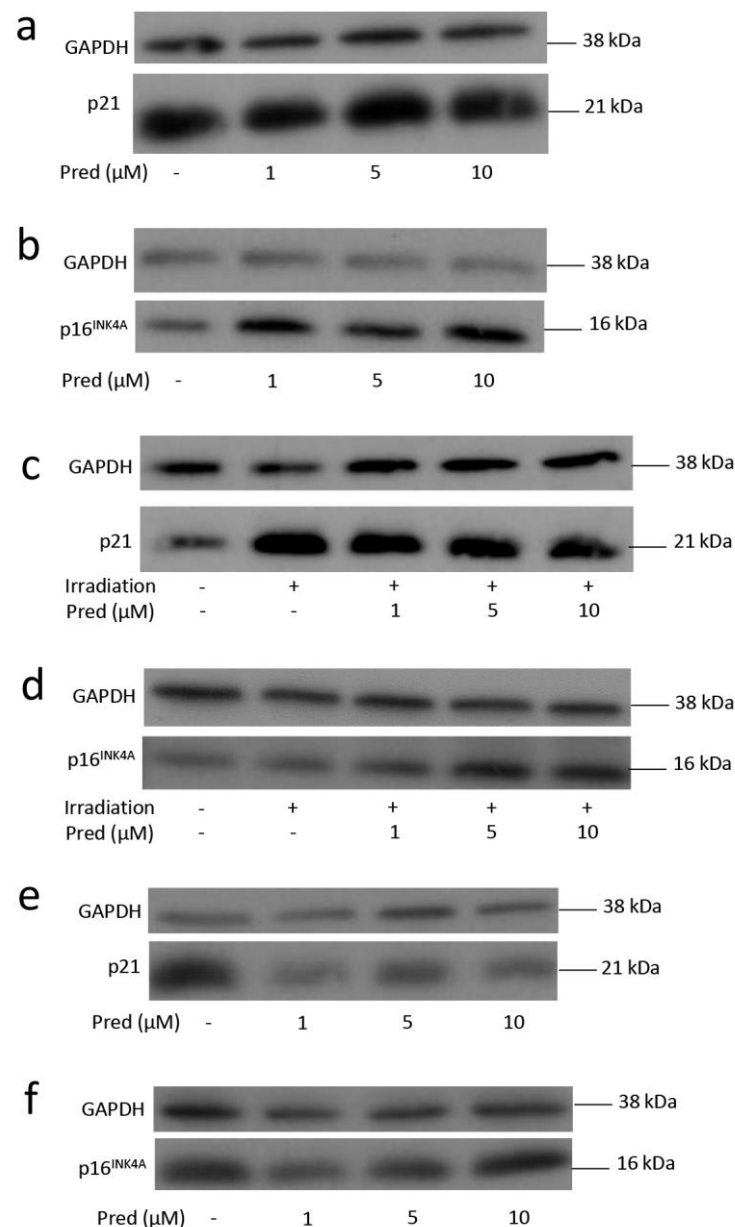


Figure S3. Representative example of Western blotting. **(a)** p21 protein expression in osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). **(b)** p16^{INK4A} protein expression in osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). **(c)** p21 protein expression in irradiated osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). **(d)** p16^{INK4A} protein expression in irradiated osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). **(e)** p21 protein expression in mesenchymal stem cells (cells recovering after 8 days). **(f)** p16^{INK4A} protein expression in mesenchymal stem cells (cells recovering after 8 days).

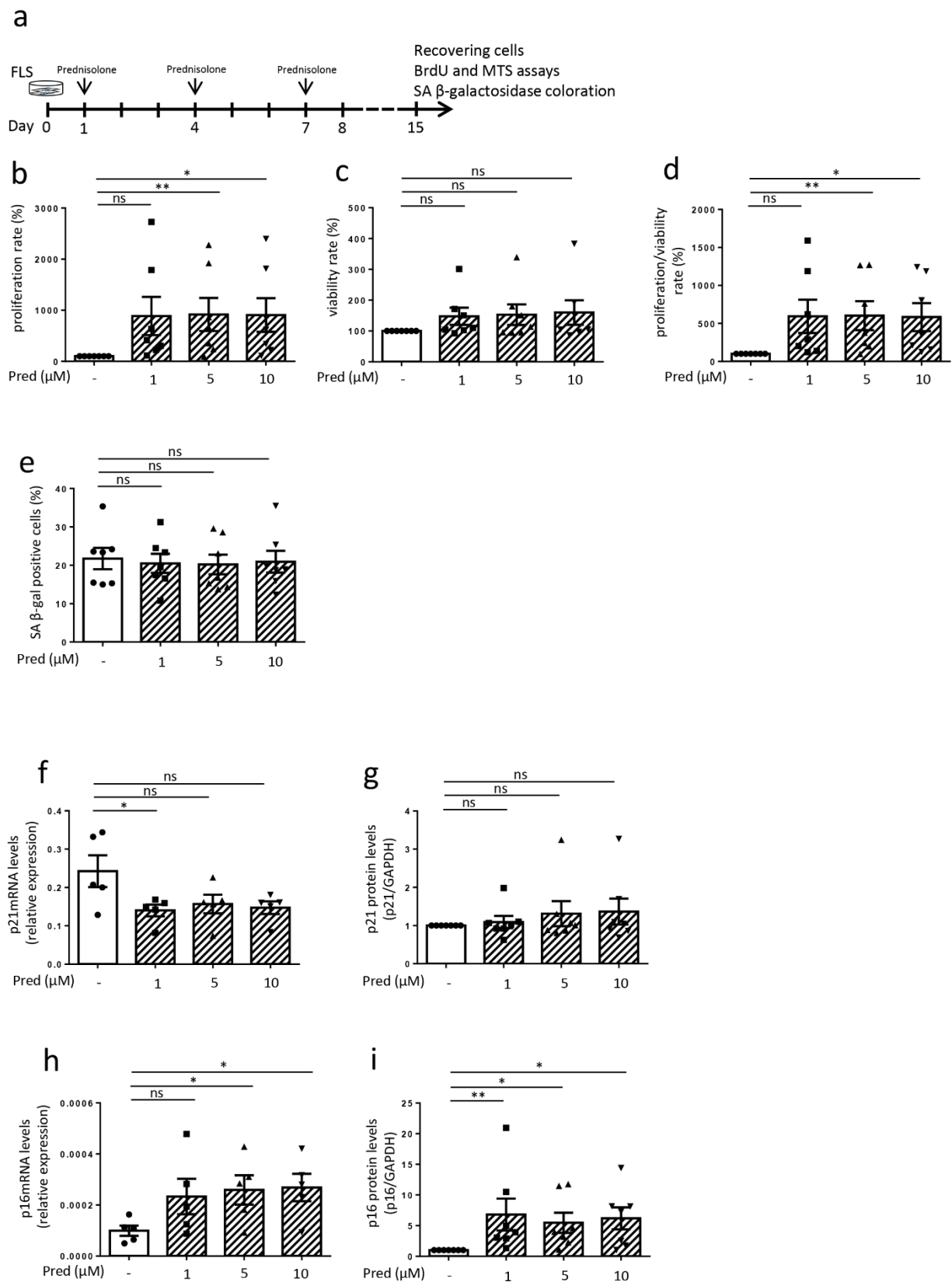


Figure S4. Influence of prednisolone on senescence hallmarks in osteoarthritic fibroblast-like synoviocytes (cells recovering after 15 days). **(a)** Experimental design. **(b)** Proliferation rate analysis (BrdU incorporation) (n=7). **(c)** Viability rate analysis (MTS analysis) (n=7). **(d)** Proliferation/viability ratio (n=7). **(e)** β-galactosidase staining (n=7). **(f-g)** p21 mRNA expression by RT-qPCR (data expressed as $2^{-\Delta\Delta C_t}$, n=5) and protein expression by western blotting (levels reported on

GAPDH, $n=7$). (h-i) p16^{INK4A} mRNA expression by RT-qPCR (data expressed as $2^{-\Delta\Delta C_t}$, $n=5$) and protein expression by western blotting (levels reported on GAPDH, $n=7$). Results are expressed as mean $\pm$ SEM; * $p < 0.05$, ** $p < 0.01$, ns = not significant.

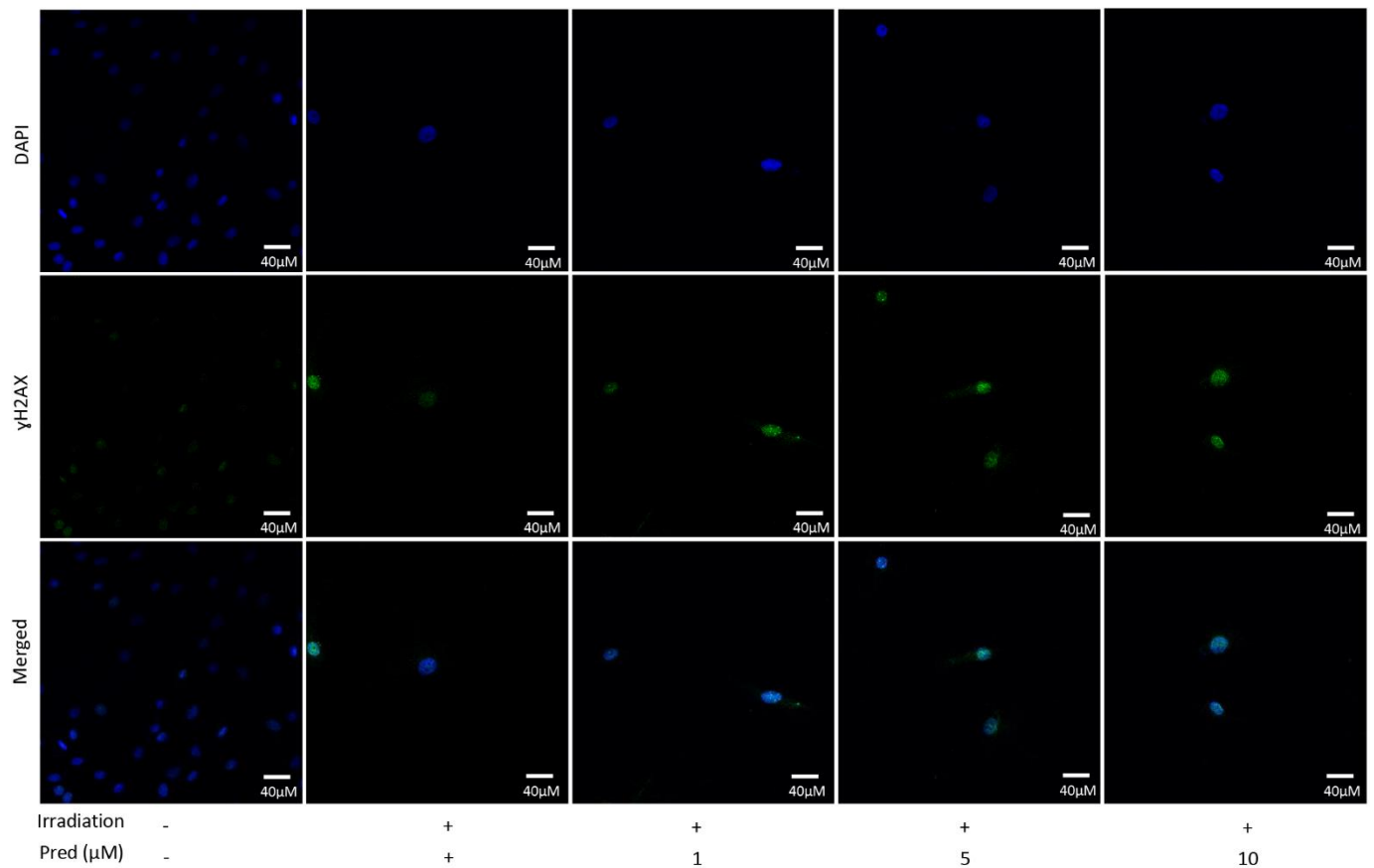


Figure S5. Influence of prednisolone on DNA damage in irradiated osteoarthritic fibroblast-like synoviocytes (cells recovering after 8 days). Representative pictures of DNA damage with γ H2AX staining.

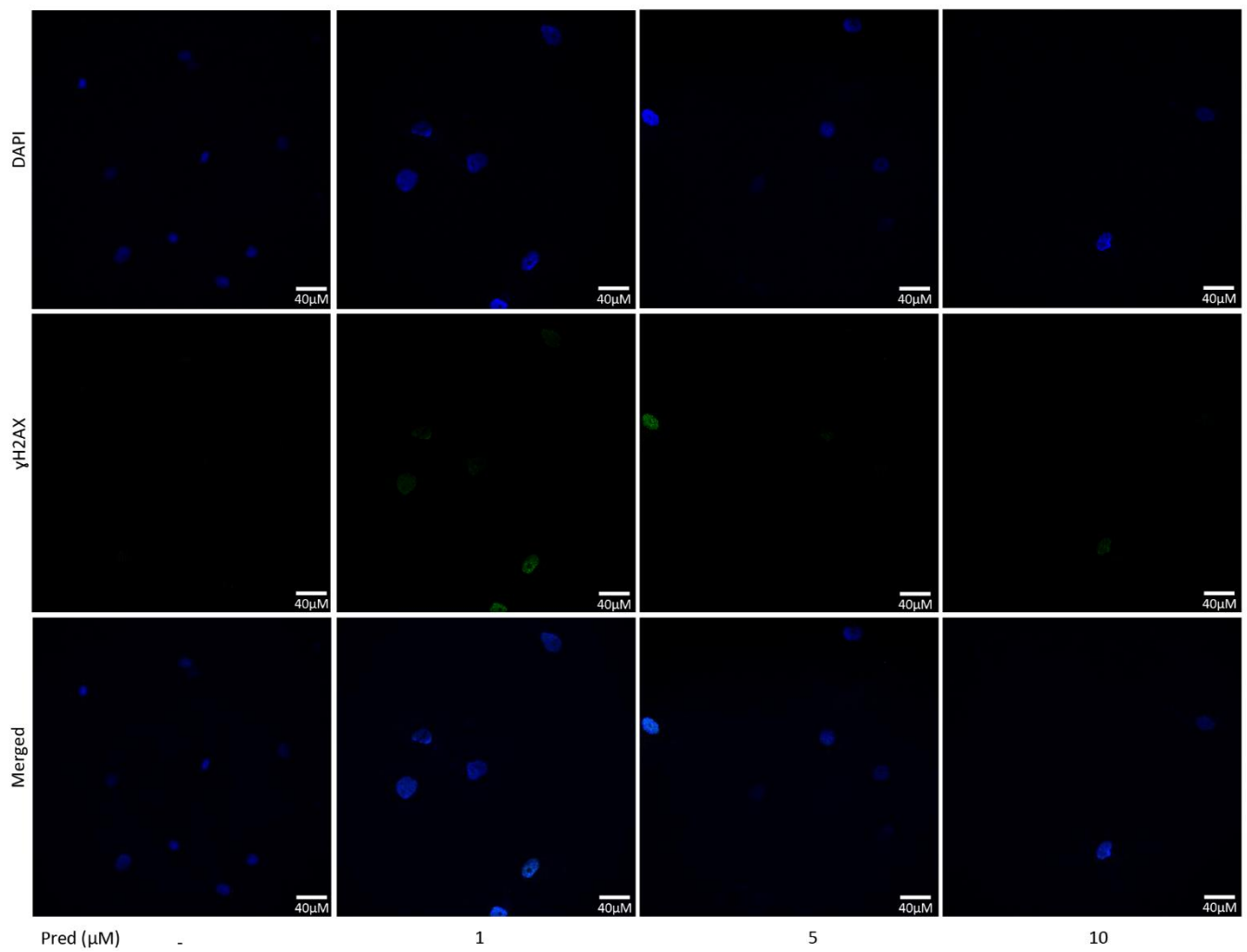


Figure S6. Influence of prednisolone on DNA damage in mesenchymal stem cells. Representative pictures of DNA damage with γ H2AX staining.