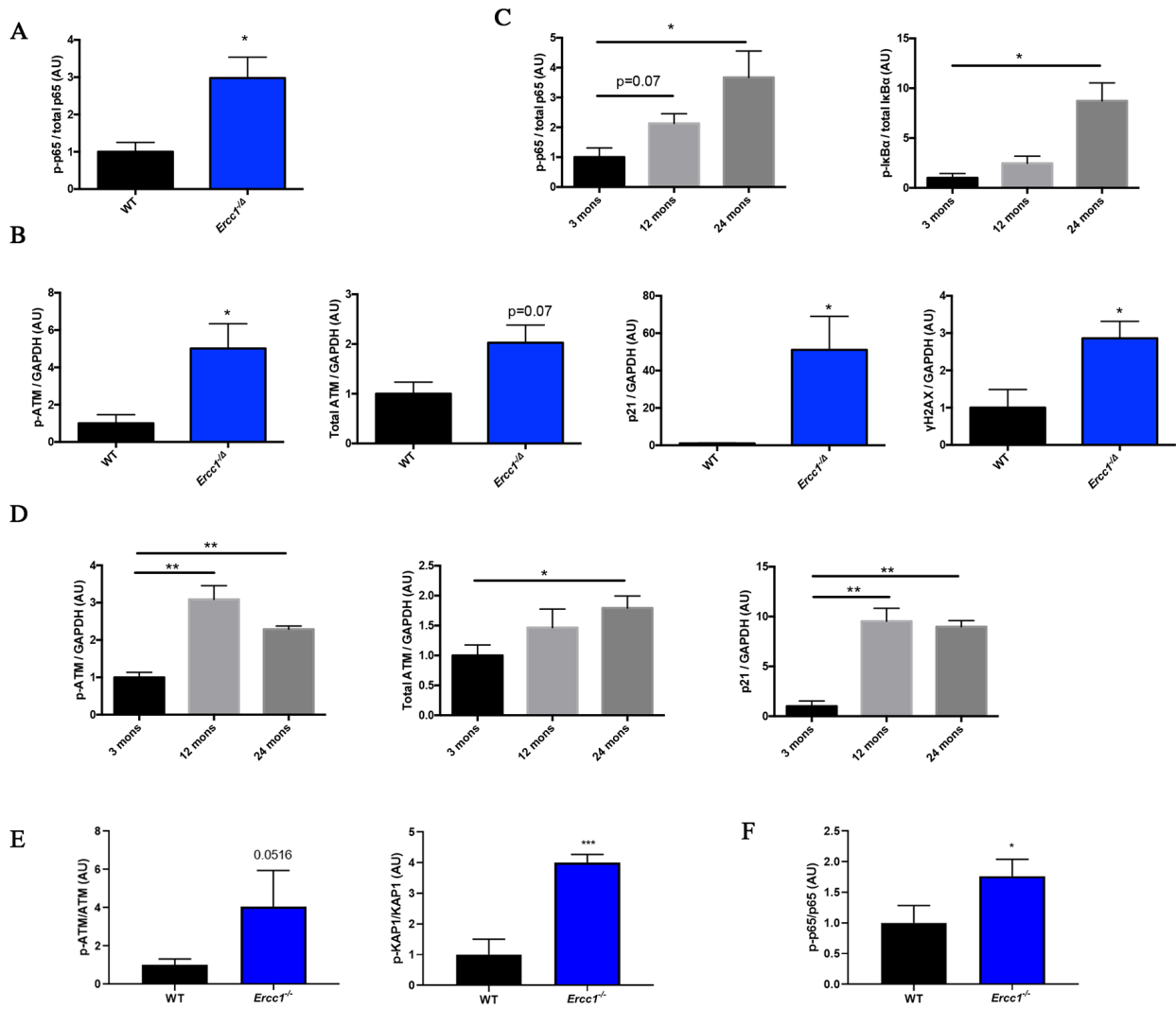
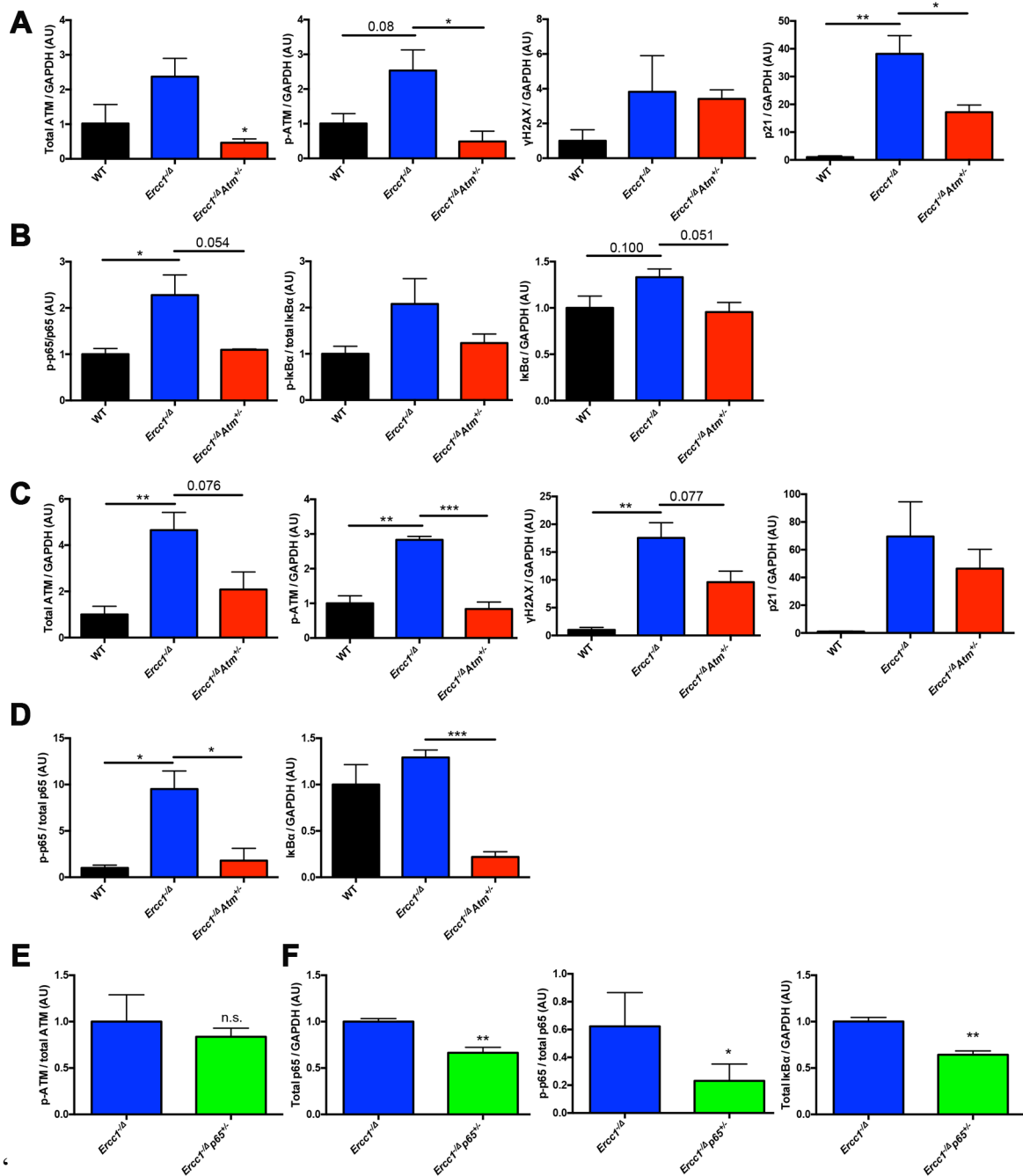


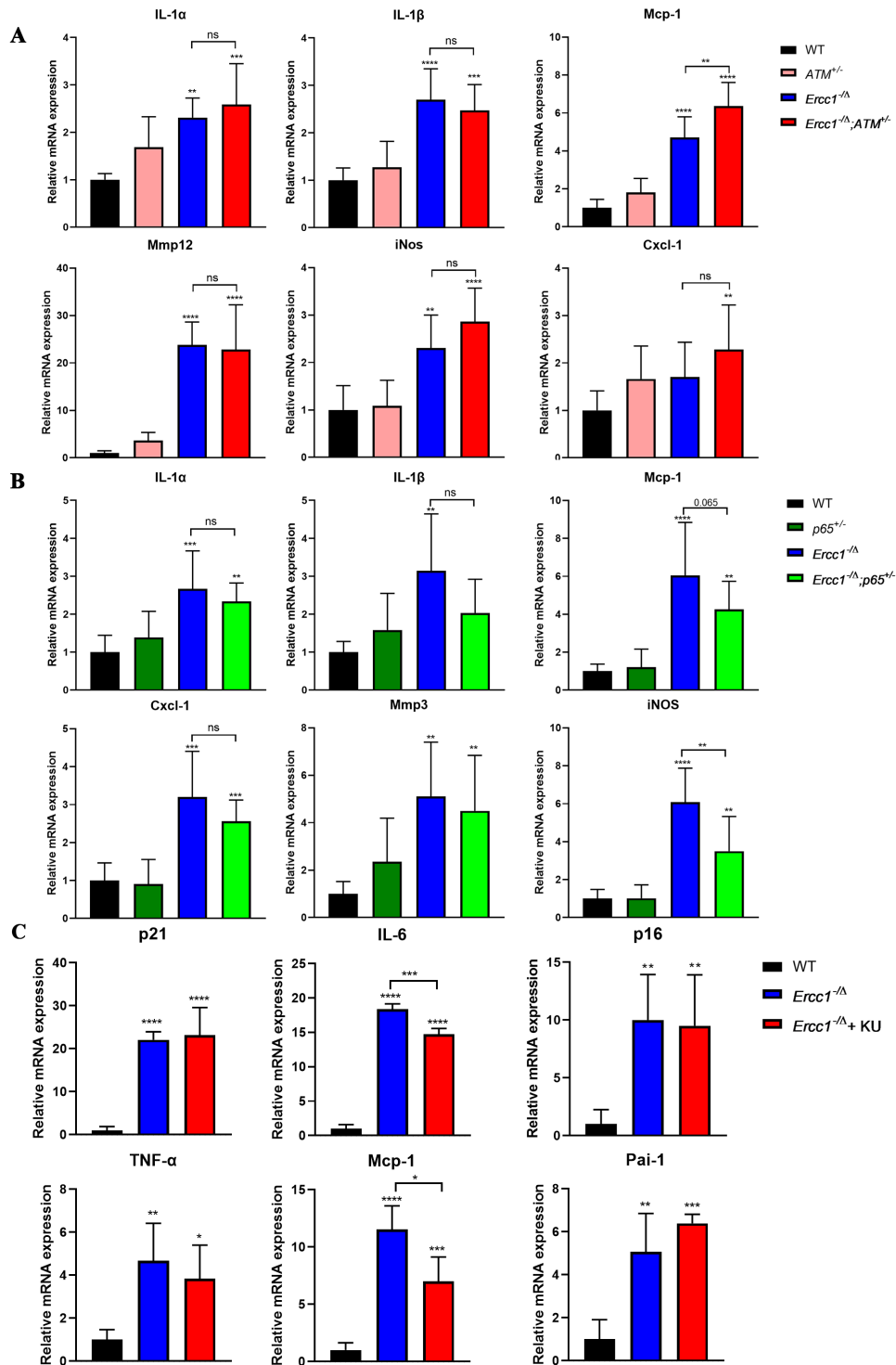
SUPPLEMENTARY FIGURES



**Supplementary Figure 1. DDR and NF-κB are activated in tissues from progeroid *Ercc1*<sup>-/-</sup> and old WT mice.** Densitometric analysis of Western Blot shown in Figure 1A (A), Figure 1B (B), Figure 1C. (C) and Figure 1D (D). (A–B) Two-tailed Student’s t-test was performed. (C–D) One-way ANOVA was performed. \*p <0.05, \*\*p <0.01 or as indicated in the figure.



**Supplementary Figure 2. Atm haploinsufficiency reduces senescence by regulating NF-κB activation.** Densitometric analysis of Western Blot shown in Figure 7A (A), Figure 7B (B), Figure 7C (C), Figure 7D (D), Figure 7E (E) and Figure 7F (F). P values were determined using a Student's t-test. \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001 or as indicated in the figure.



**Supplementary Figure 3. Genetic reduction or pharmacologic inhibition of *Atm* or *NF- $\kappa$ B* attenuates aging phenotypes and reduces cellular senescence *in vivo*.** (A) qRT-PCR analysis of mRNA expression in liver from 12-week-old WT, *Atm*<sup>-/-</sup>, *Ercc1*<sup>-/-</sup> and *Ercc1*<sup>-/-</sup>*Atm*<sup>+/-</sup> mice. n=3-6 per group. (B) qRT-PCR analysis of mRNA expression in liver from 10 to 12-week-old WT, *p65*<sup>+/-</sup>, *Ercc1*<sup>-/-</sup> and *Ercc1*<sup>-/-</sup>*p65*<sup>+/-</sup> mice. n=4-5 per group. (C) mRNA expression of senescence markers in the kidney of 12-week-old *Ercc1*<sup>-/-</sup> mice treated with 10 mg/kg of KU-55933 intraperitoneally 3 times per week for two weeks. n = 3 per group. Graphs represent mean $\pm$  s.e.m. P value was determined using Student's t-test. \*p<0.05, \*\*p<0.01, \*\*\*p<0.001, \*\*\*\*p<0.0001.