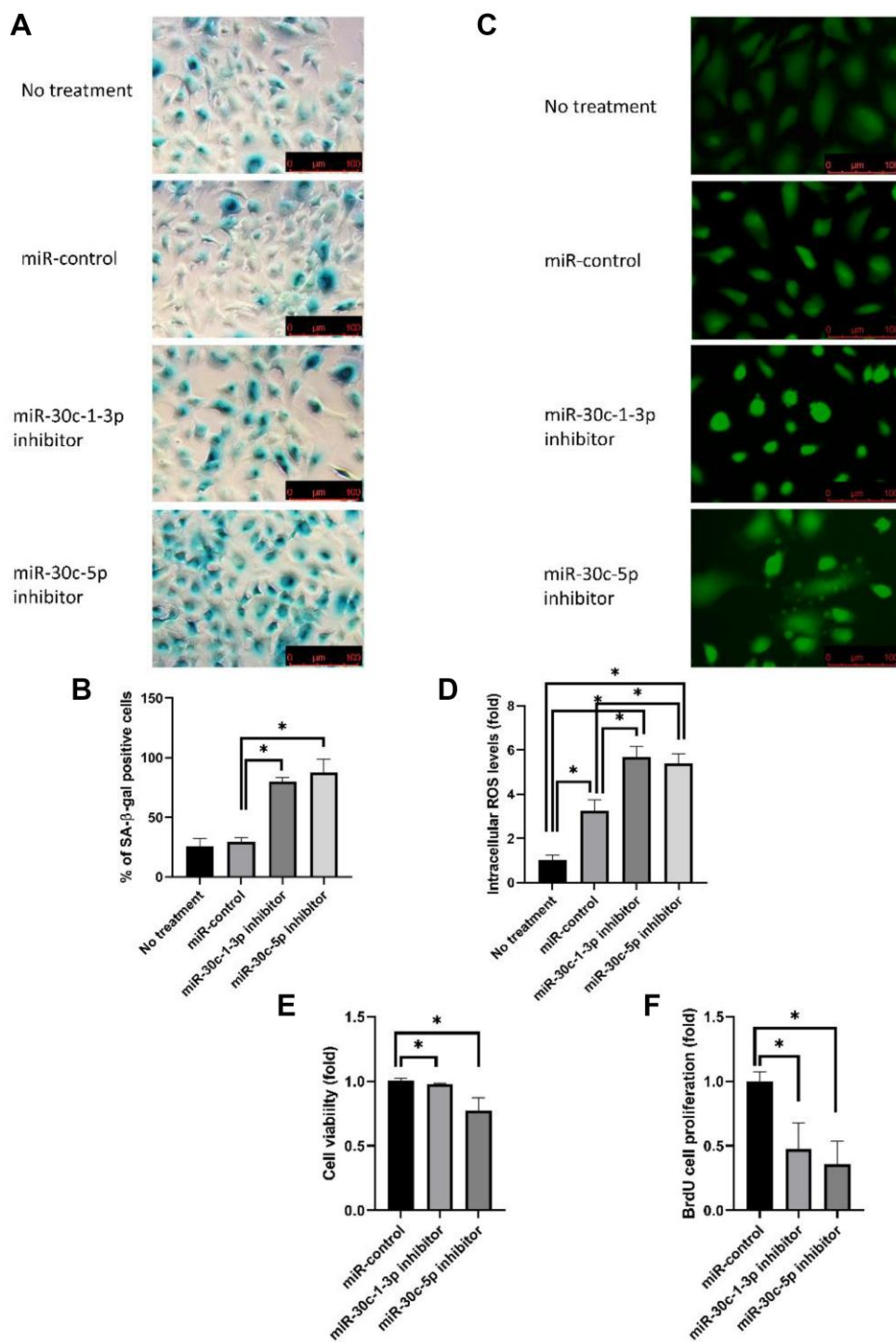
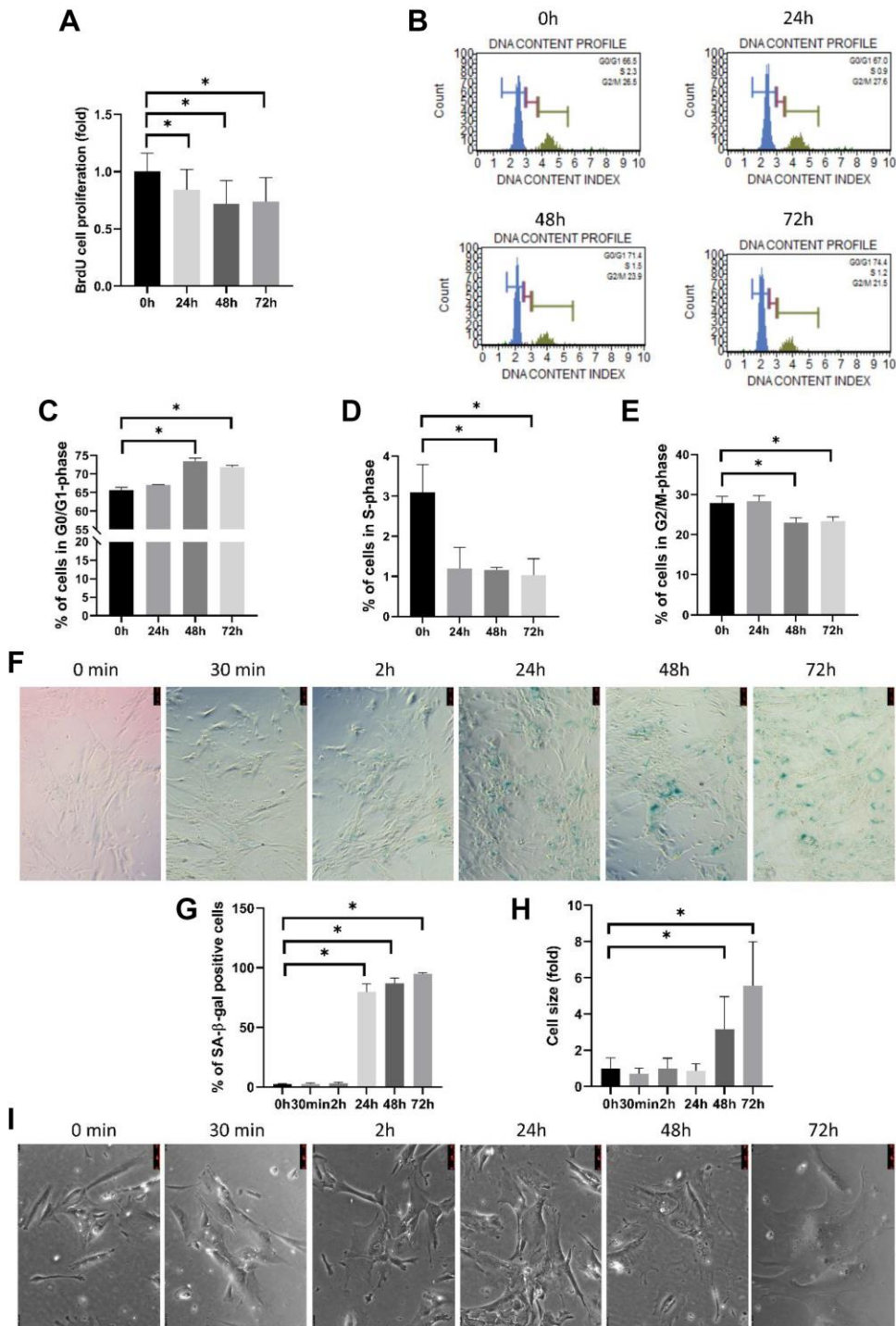


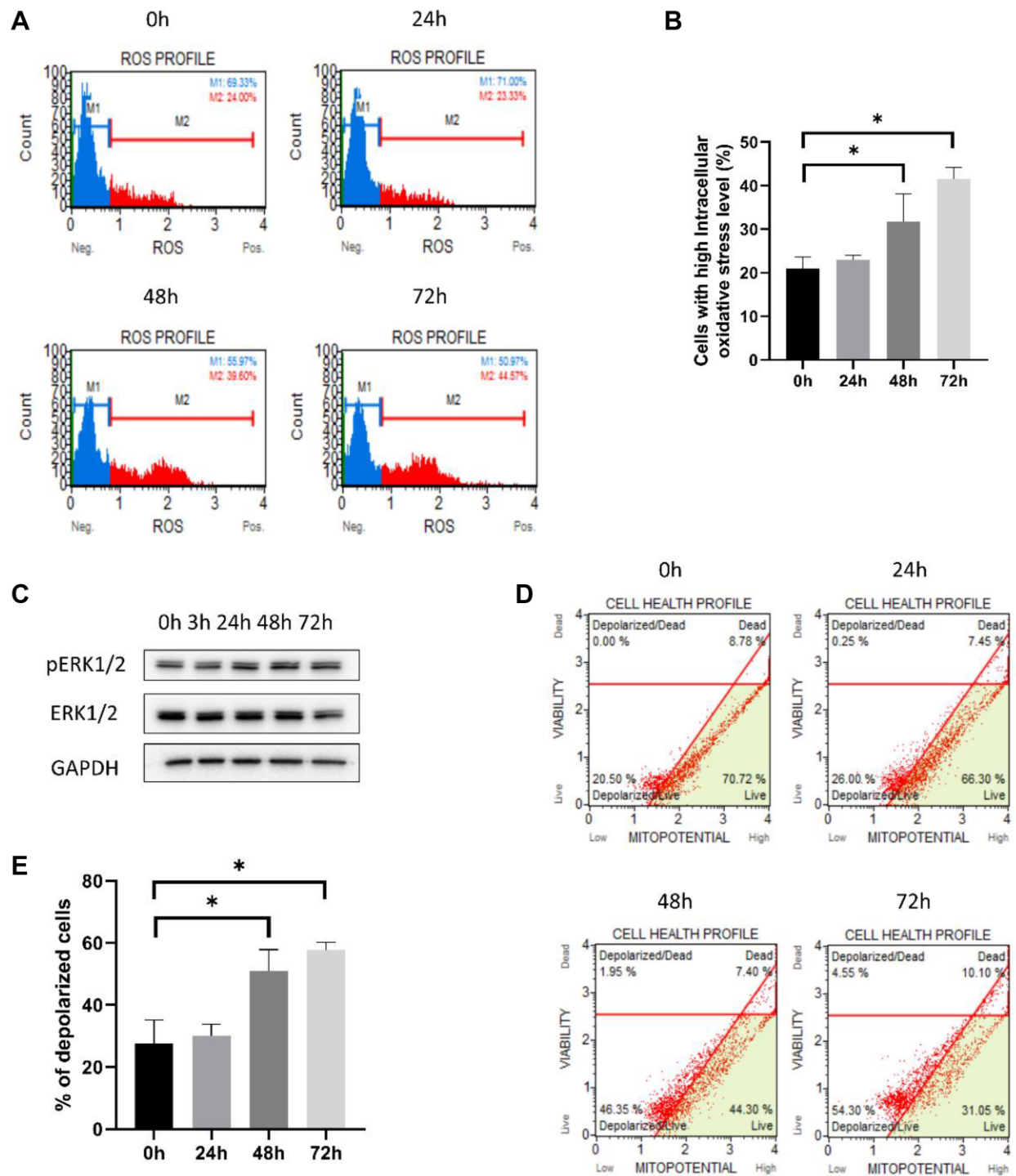
## SUPPLEMENTARY FIGURES



**Supplementary Figure 1. miR-30c-1 inhibitor induces the senescence of hCECs.** (A–B) Senescence-associated  $\beta$ -galactosidase positive cells were less shown in treatment with miR-30c-1 inhibitors. (C–D) Intracellular oxidative stress levels were increased in treatment with miR-30c-1 inhibitors. (E–F) Cell viability and BrdU cell proliferation rate were decreased in treatment with miR-30c-1 inhibitors. \*statistically significant.



**Supplementary Figure 2. Effect of TGF-β1 on cell cycle arrest and senescence.** (A) Cell proliferation was measured using BrdU proliferation assay. (B) Cell cycle analysis using by DNA content measurement. (C–E) The percentages of cells in G0/G1-phase (C), in S-phase (D) and G2/M-phase (E) were analyzed. (F) Representative images of senescence-β-galactosidase (SA-β-gal) staining. (G) The percentage of SA-β-gal positive cells was quantified. (H) Representative images of cell shape. (I) Cell size increased over time after TGF-β1 treatment. \*statistically significant.



**Supplementary Figure 3. Effect of TGF- $\beta$ 1 on mitochondria after TGF- $\beta$ 1 treatment.** (A) Representative images of oxidative stress levels. (B) The percentage of cells with high intracellular oxidative stress level increased over time. (C) Activation of ERK increased over time. (D) Representative images of mitochondrial membrane potential. (E) The percentage of depolarized cells increased over time. \*statistically significant.