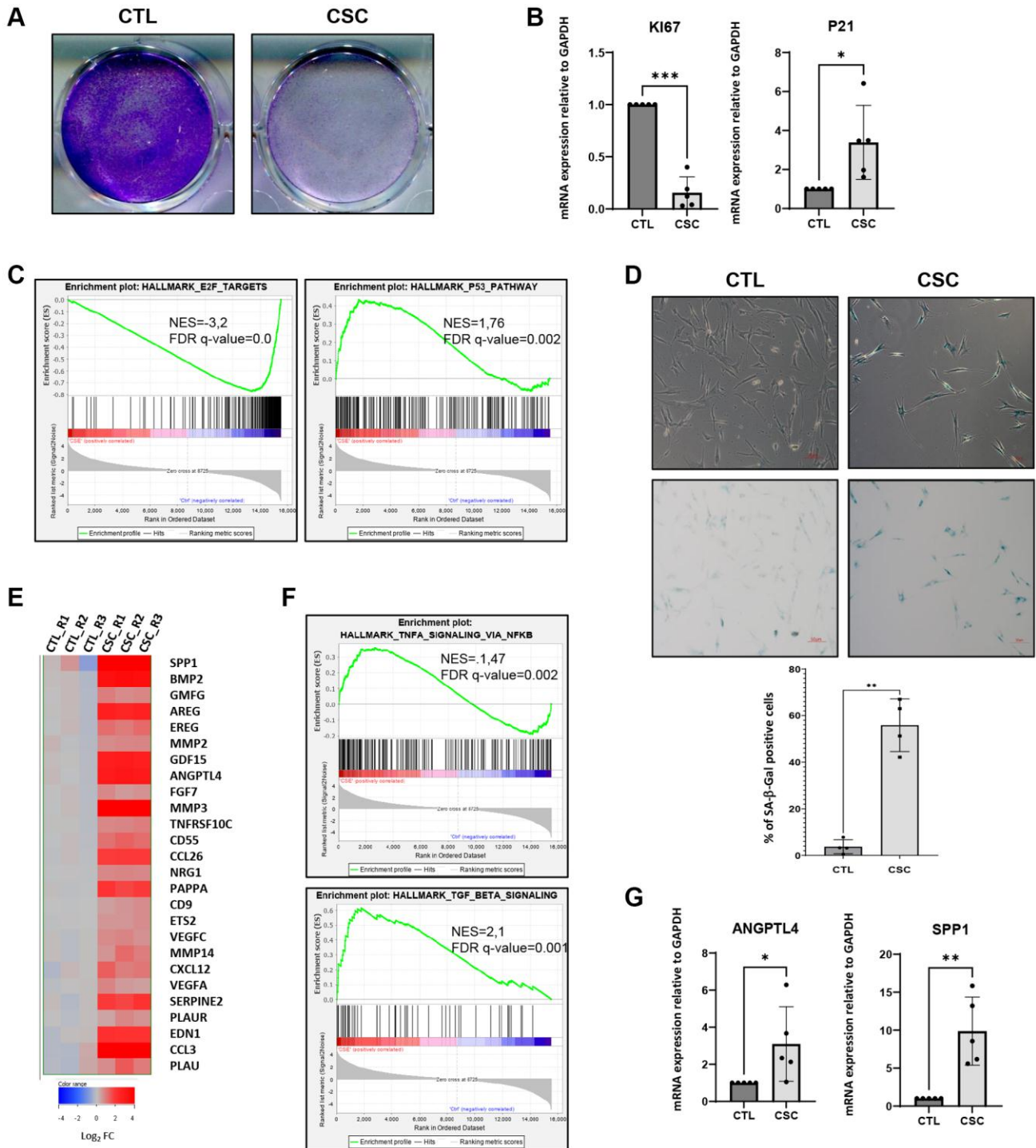
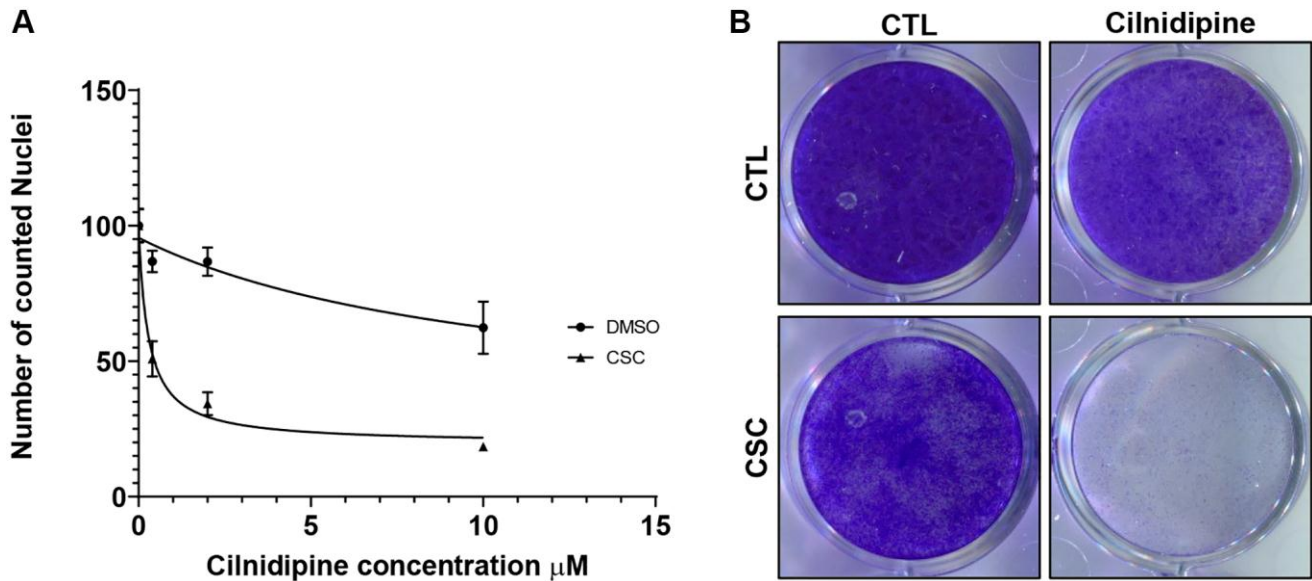


SUPPLEMENTARY FIGURES



Supplementary Figure 1. Cigarette smoke condensates induce premature senescence. MRC5 human fibroblasts were treated 6 days with cigarette smoke condensates (CSC) at 40 $\mu\text{g}/\text{ml}$. Two to 4 days after the last treatment, various assays were performed: **(A)** Cells were PFA-fixed and crystal violet stained to visualize cell density. **(B)** RTqCR analysis against proliferation marker (KI67) and cyclin dependent kinase inhibitor p21 were performed on CSC-treated cells (CSC) and DMSO treated control cells (CTL). Results were normalized against GAPDH reference (mean \pm SEM, paired *t*-test, $n = 5$). **(C)** Transcriptomic analysis were performed on CSC treated cells (CSC) and DMSO-treated control cells (CTL). GSEA enrichment plots from transcriptomic analysis of CSC- treated cells versus control cells are shown. Enriched pathway indicating a proliferation arrest are displayed. Name of the pathway are indicated on the top of plots. Normalized enrichment score (NES) and statistic *q*-values are indicated. **(D)** SA- β -Gal assays were performed on CTL and CSC-treated cells. Representative images are shown, as well as the percentage of positive cells. (mean \pm SEM, paired *t*-test, $n = 4$). **(E)** Heatmap shows up-

regulation of numerous senescence SASP markers defined par MAYO clinic signature in CSC condition compared to CTL condition. R1 R2 R3 indicates 3 independent replicates. (F) GSEA enrichment plots of pathways linked to the SASP. (G) RTqCR analysis against SASP factors. Results were normalized against GAPDH (mean \pm SEM, paired *t*-test, *n* = 5). **p* < 0.05; ***p* < 0.01; ****p* < 0.001.



Supplementary Figure 2. Cilnidipine induces the death of CS-induced senescent cells. (A) Dose response curve of CaV blocker Cilnidipine senolytic activity. X axis shows Cilnidipine concentrations used, Y axis shows percentage of cell count relative to control DMSO treated cells (% of counted nuclei) (mean \pm SEM). (B) After indicated treatment, cells were fixed by paraformaldehyde and stained using crystal violet to visualize cell density.