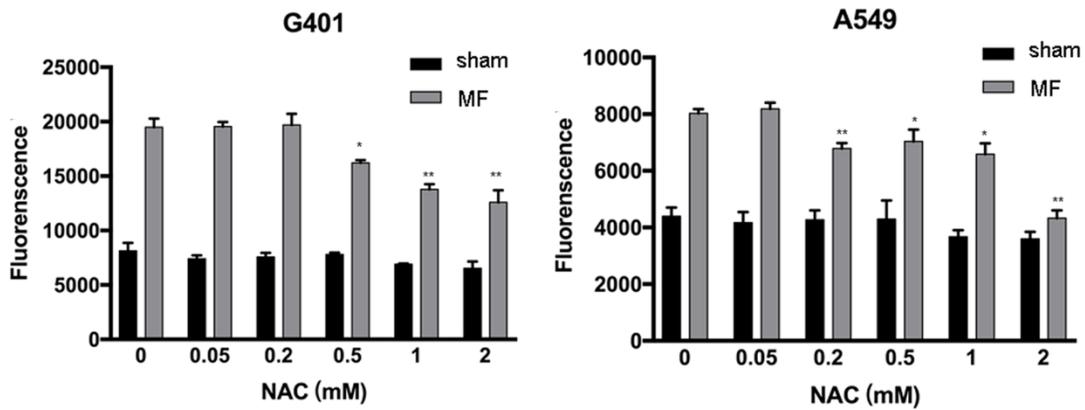
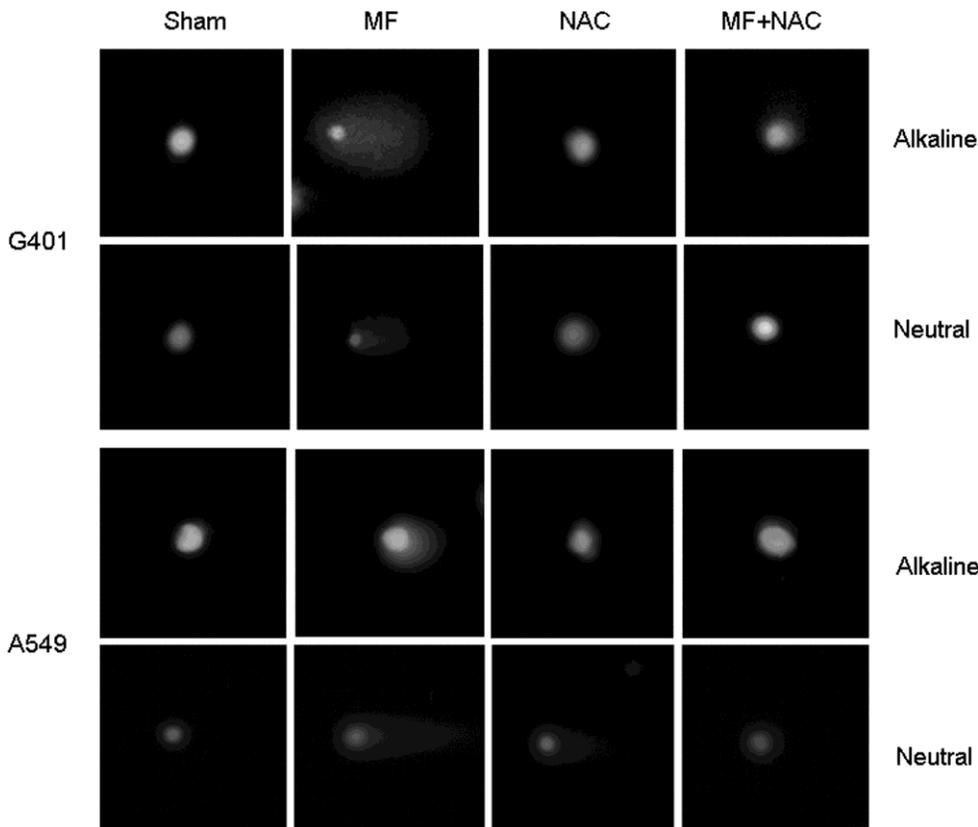


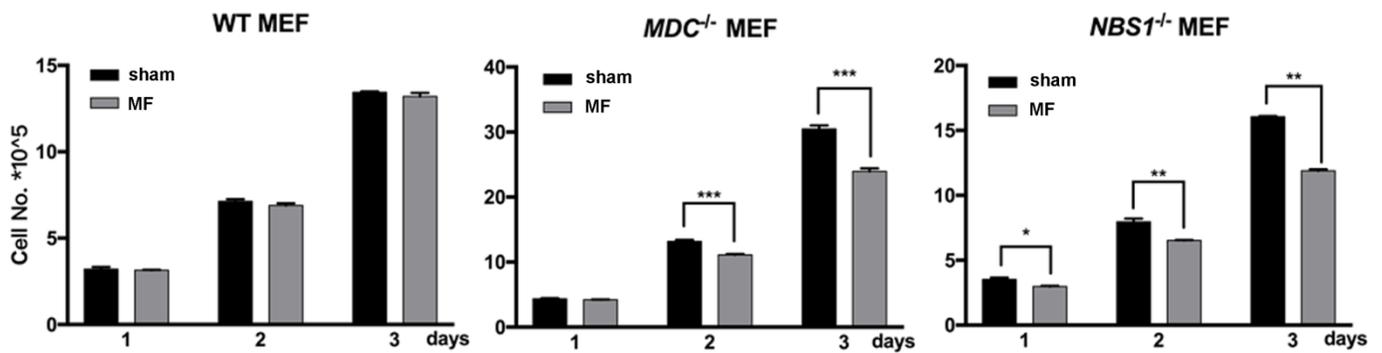
SUPPLEMENTARY FIGURES



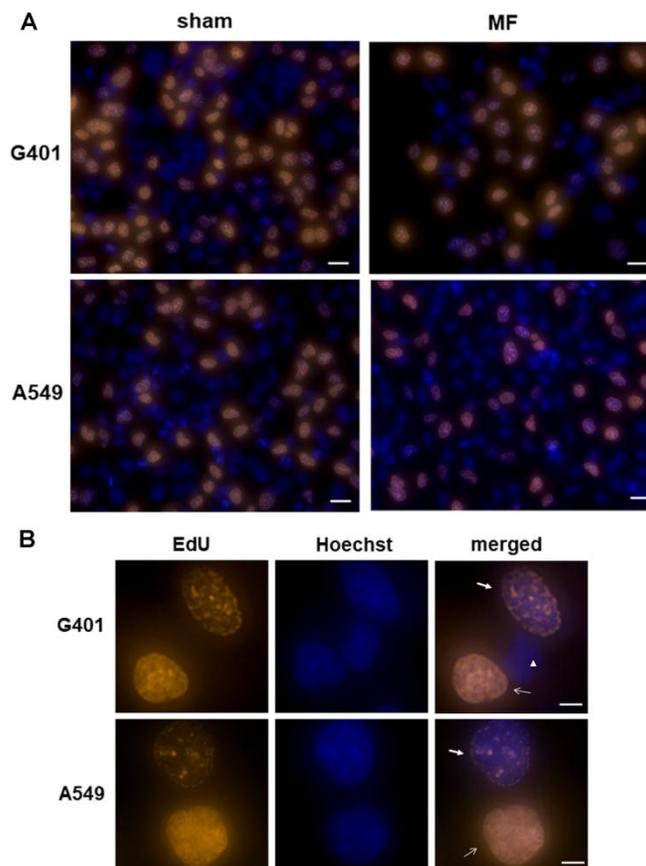
Supplementary Figure 1. Decrease of intracellular ROS levels by NAC. G401 and A549 cells were subjected to MF exposure for 0.5 h with or without 2 h⁺ NAC pretreatment at the concentration of 0.05, 0.2, 0.5, 1, or 2 mM. ROS levels were measured by DCFH-DA probe after termination of exposure. Results are expressed as mean \pm SD (n=5). *: P<0.05; **: P<0.01, compared with MF group without NAC treatment.



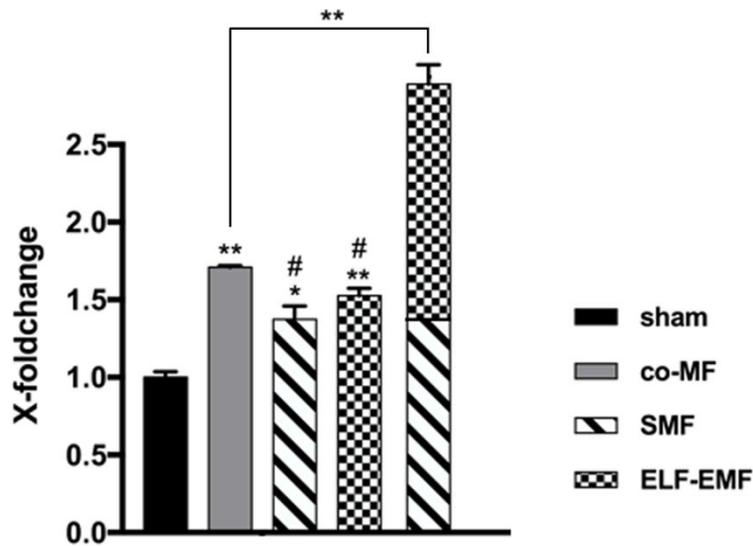
Supplementary Figure 2. Imaging of DNA tails in the Comet assays. G401 and A549 cells were subjected to MF exposure for 2 h daily for 3 consecutive days, with or without co-treatment of 1 mM NAC. Representative images of cell nuclei with or without tail DNA on exposure day 2 by alkaline and neutral Comet assays are shown. Statistics analysis is presented in Figure 5A, 5B.



Supplementary Figure 3. Growth curves of wild-type (WT) and DNA repair deficient MEF cells following MF exposure. Wild-type (WT), *MDC*^{-/-} and *NBS1*^{-/-} MEF cells were subjected to MF exposure for 2 h daily for 3 consecutive days, or sham exposure. Number of viable cells was counted daily after treatments were terminated. Results are expressed as mean \pm SD (n=5). *: P<0.05; **: P<0.01; ***: P<0.001.



Supplementary Figure 4. Visualization of EdU incorporation assay. G401 and A549 cells were subjected to MF or sham exposure for 2 h daily for 3 consecutive days. (A) Representative overview of EdU and Hoechst 33342 fluorescence in G401 and A549 cells on exposure day 2. Scale bar= 20 μ m. (B) Representative images showing EdU positive nuclei (fine arrows) and partial incorporated nuclei (bold arrows). Triangle indicates nuclei without EdU incorporation. Scale bar= 5 μ m. Statistics analysis is presented in Figure 6A, 6B.



Supplementary Figure 5. Change of intracellular ROS concentration under exposure of different types of fields. G401 cells were exposed under modulated MF (Supplementary Table 1, co-MF), under SMF only, under ELF-EMF only, or with sham exposure. ROS was measured after exposure for 1.5 h. Y-axis indicates fold of change compared with the group with sham exposure. Data were shown as mean \pm SE from three independent experiments (n=5 in each experiment). *: P<0.05, **: P<0.01, compared with sham, or comparison of the groups indicated; #: P<0.05, ##: P<0.01, compared with co-MF.