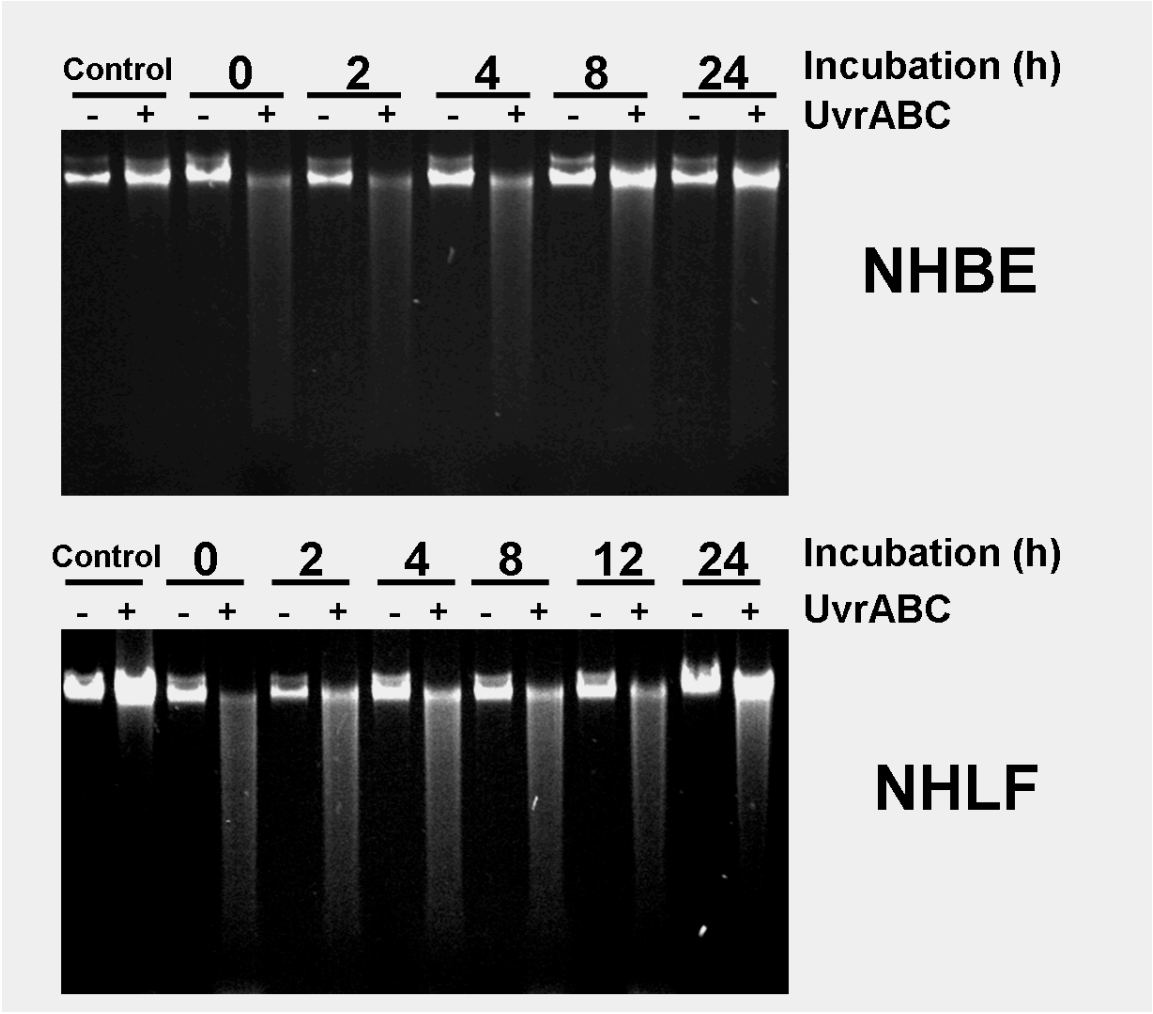
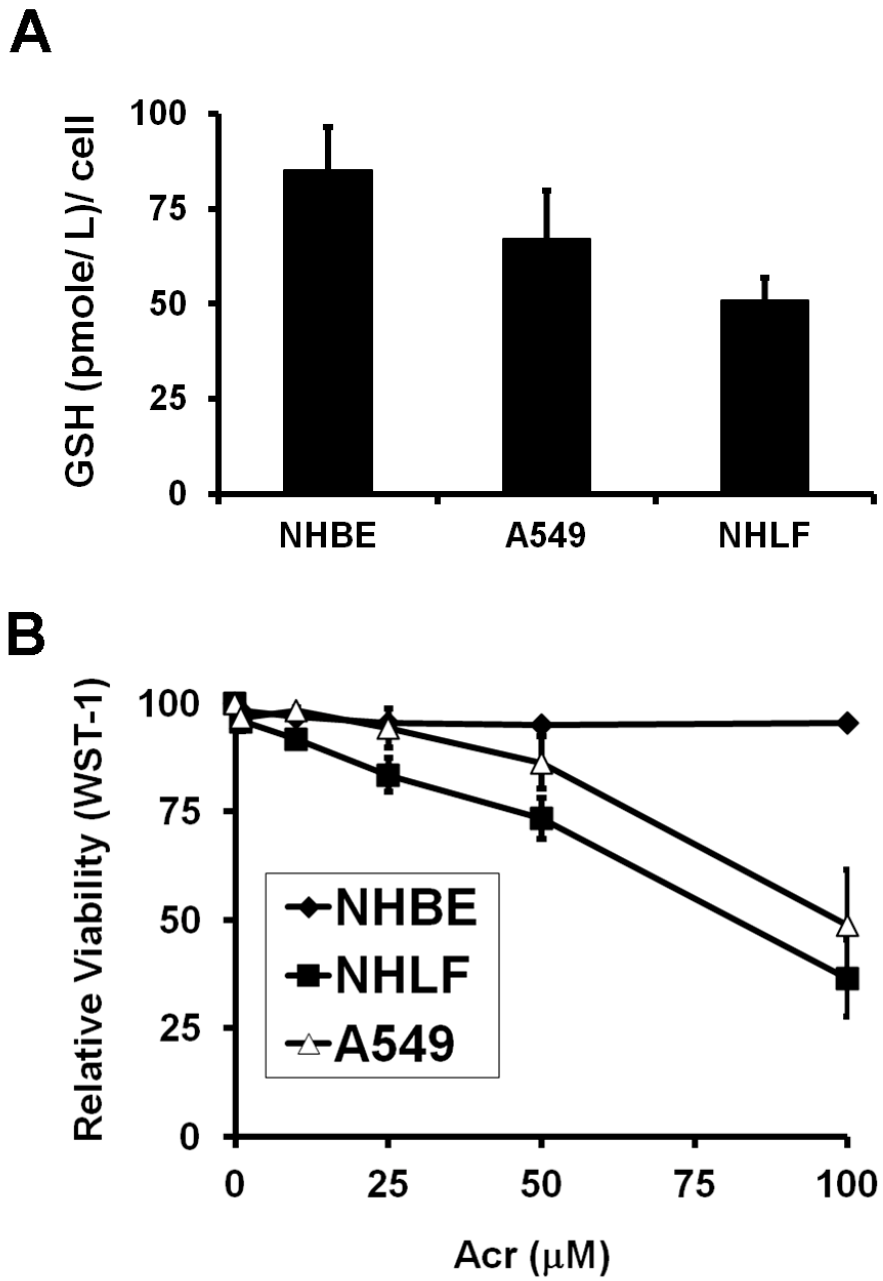


Supplement Figure S1. Repair of UV-induced damages in NHBE and NHLF. Exponentially growing NHBE and NHLF were irradiated with UV (20 J/ m^2) and incubated in growth medium for different time (2-24 h) and UV-induced damages in the genomic DNA were detected by the UvrABC incision method the same as in Fig. 1D.



Supplement Figure S2. Glutathione (GSH) levels in NHBE, NHLF and A549 cells (A) and acrolein-induced cytotoxicity in these cells (B). The levels of glutathione in NHBE, NHLF and A549 cells were determined by Glutathione assay kit (Calbiochem) and the procedure was followed manufacture instructions. Briefly, 1x 10^6 cells were resuspended in 500 μl of ice-cold metaphosphoric acid (MPA) working solution (5% (w/v)) and homogenized. After centrifuging homogenate at 3000 x g, 4 °C for 10 min, the upper clear aqueous layer was collected and kept at 0-4 °C for the assay within 1h. The results were repeated three independent experiments. Acrolein induced cytotoxicity was determined by cell proliferation reagent WST-1 (Roche) and the procedure was followed manufacture instructions. Briefly, 3-5 X 10^4 cells/ 100 μl culture medium were seeded in

96-well microplates overnight and treated with Acr (0-100 μM) at 37 °C (NHBE and NHLF for 1 h and A549 cells for 3 h). After treatment, 10 μl cell proliferation reagent WST-1 was added and incubated at 37 °C for 1 h. The absorbance of the samples against a background control as blank using a microplate reader was measured between 420-480 nm. The results were repeated three independent experiments.