Supplementary Material 1.

**Cells deficient in Smug1 and/or Ung are not sensitised to killing by HOCl**

HOCl is generated from H$_2$O$_2$ and Cl$^-$ by myeloperoxidase in activated neutrophils (Henderson *et al.*, 2003). 5-chlorouracil is a marker of HOCl-mediated oxidative DNA base damage during inflammation and accumulates in DNA isolated from cells treated with sublethal doses of HOCl (Jiang *et al.*, 2003). Smug1- and/or Ung-deficient MEFs were exposed to a 0-100 µM dose range of HOCl. Sodium hypochlorite was purchased from Sigma; HOCl concentration was quantified spectrophotometrically at 290 nm (pH 12, ε=350 M$^{-1}$ cm$^{-1}$) (Morris, 1966) and diluted in Hank’s balanced saline solution (HBSS) immediately before use. Cells were grown in 100 mm dishes for 24 h to ~60-70% confluence, washed with HBSS and incubated with 0-100 µM of HOCl at 37°C for 15 min. Cells were harvested immediately after treatment, reseeded in triplicate for each dose (100 cells per 100 mm dish at <60 µM HOCl; 500 cells per 100 mm dish at ≥60 µM HOCl). Surviving colonies were stained with Giemsa and counted after 10-12 days in culture. Survival at each dose was calculated as a percentage of the untreated control after adjustment for the actual plating efficiency of each cell line, which was ~50%. There was no difference in survival of the Smug1$^{-/-}$, the Ung$^{-/-}$ or the Smug1$^{-/-}$, Ung$^{-/-}$ uracil-DNA glycosylase-deficient cell lines in comparison with the wild-type control, indicating that neither the Smug1 nor Ung enzyme excises this lesion arising from incorporation of the halogenated nucleoside (Figure 1). Thus, generation of 5-chlorouracil would not explain the sensitivity of Smug1$^{-/-}$, Ung$^{-/-}$ cells to killing by ionizing radiation.


**Fig. 1.** Survival of Smug1-deficient MEF cell lines after exposure to HOCl. Wild-type (filled square), Smug1− (open square), Ung−/− (filled triangle) and Smug1−,Ung−/− (open triangle) MEF cell lines were treated at the doses indicated and surviving colonies scored after 10-12 days as a percentage of untreated control. All values are the mean from three experiments.