

# Influence of Interferons on the Repair of UV-Damaged DNA

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The capacity for nucleotide excision repair of a normal (WISH) and three tumour (MCF-7, HeLa, Namalva) cell lines treated with human recombinant interferons (hrIFN- $\alpha$  and hrIFN- $\gamma$ ) was compared by the host cell reactivation assay. The cells were transfected with *in vitro* UV-damaged plasmid DNA (pEGFP-N1). The repair capacity was determined by measuring the fluorescence intensity of the expressed marker protein in total cell lysates. The correlation between the interferon-induced NO content and the suppressive effect of interferons on DNA repair was shown. The decrease of repair activity and NO induction by hrIFN- $\alpha$  were greatest in WISH, followed by MCF-7, Namalva and HeLa cells, whereas hrIFN- $\gamma$  was the best NO inducer and inhibitor for the repair of Namalva, followed by WISH, MCF-7 and HeLa cells. Our data clearly show that the two types of interferon have a strong inhibitory effect on the repair of UV-damaged DNA and this effect is cell type-dependent.

*Key words:* Interferon, DNA Repair