

Decreased DNA Repair Capacity of UV-Irradiated Cells Following Interferon Treatment

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The aim of this study was to examine the effect of interferons (IFNs) on the recovery of UV-damaged cells by means of measuring cell viability rates. The influence of the recombinant human interferons IFN- α , IFN- β and IFN- γ on the repair capacity of the UV-irradiated human cell lines WISH and HeLa was studied. The ability of cells to repair UV-induced damage was determined by the comet assay and both short- and long-term survival assays in proliferating cell cultures. We found that IFNs negatively regulated DNA repair in cells damaged by UV light. One day after treatment, in both cell lines tested, IFN- α had a stronger inhibitory effect than IFN- γ . Combined treatment with different IFNs exhibited a stronger inhibitory effect on cell recovery than treatment with each of them. The protein kinase inhibitor wortmanin further aggravated the effect of IFNs on cell survival.

Key words: Interferon, DNA Repair