

Z6 18 Effect of 3-Aminobenzamide on Apoptosis Induced by Ultraviolet Radiation in HeLa S₃ and CHO Cells

Hyun Jin Park, Jeong Hyun Chang, Kyu Seon Oh, Dong Wook Lee,
and Kyung Il UM

Division of Science, Dong-A University, Busan, Korea

The present study has been performed to elucidate the effect of 3-aminobenzamide (3AB) on apoptosis in HeLa S₃ and Chinese hamster ovary (CHO) cells. After treatment of the mammalian cell lines HeLa S₃ and CHO with ultraviolet radiation (UV), four assays were employed in this study: Gel electrophoresis of isolated DNA, quantitative assay of fragmented DNA, morphological assay of apoptotic cells. Expression of PARP was investigated by western blot analysis. DNA ladder patterns in HeLa S₃ and CHO cells treated with 50 J/m² UV was induced at 6h or 12h, respectively. Whereas DNA fragmentation induced in both HeLa S₃ and CHO cells were not affected by 3AB. The percentages of apoptotic cells treated with 50 J/m² UV and incubated with 3AB were lower than that without 3AB in HeLa S₃ cells. UV induce the cleavage of PARP in HeLa S₃ cells, whereas the cleavage of PARP in CHO cells treated with UV was not induced. The level of 116 kDa PARP in HeLa S₃ cells treated with 50 J/m² UV and incubated with 3AB for 6h was higher than that without 3AB.

Z6 19 Expression of Poly(ADP-ribose)Polymerase in Relation to Adaptive Response and Apoptosis in HeLa S₃ cells

Kyu Seon Oh, Dong Wook Lee, Jeong Hyun Chang, Hyun Jin Park,
and Kyung Il Um

Division of Science, Dong-A University, Busan, Korea

The present study was performed to elucidate expression of poly(ADP-ribose)Polymerase(PARP) during apoptosis induced by ultraviolet radiation(UV) or heat in HeLa S₃ cells. After treatment of the HeLa S₃ cells with UV or heat, induction of apoptosis was determined by several means during post-incubation. Alteration of DNA level of apoptosis was determined by DNA ladder pattern. Expression of PARP was investigated by western blot analysis. DNA ladder patterns in cells treated with 50 J/m² UV or 45°C heat were shown at 6 h post-incubation. UV and heat induced cleavage of PARP in HeLa S₃ cells. The level of PARP cleavage in cells pretreated with low dose of UV and subsequently treated with high dose of UV, was lower than that treated with high dose of UV. When cells were preheated for 5 min at 43°C and subsequently treated with 50 J/m² UV or 45°C heat, PARP cleavage was inhibited during the early stage of adaptive response.