

## **GENOTOXIC EFFECT OF CROTOXIN IN PANCREATIC TUMOR CELL AR42J BY USING MICRONUCLEUS ASSAY**

SUZUKI M. F. (1), CASARE M. (1), SPENCER P. J. (1)

(1) Instituto de Pesquisas Energéticas e Nucleares, IPEN – CNEN/SP.

Snake venoms are rich source of several bioactive compounds that possess therapeutic potentials. Fractions of snake venoms can modulate cell proliferation, cell growth and cell cycle. The genotoxic activity of venom fractions can be analysed by using micronucleus assay. The cytokinesis-block micronucleus (CBMN) assay was developed as a system for measuring micronuclei (MNi) originated from DNA fragmentation. The pancreatic adenocarcinoma cells, AR42J, were exposed to crotoxin, the main toxin of the South American rattlesnake *Crotalus durissus terrificus*, isolated and purified by molecular exclusion chromatography and pl precipitation. The cells were washed after 24 h exposure and cultivated for 48 h. The micronucleated cells increased at the concentration of 3 and 14 µg/ml. This genotoxic effect of crotoxin was similar to that observed in AR42J cells irradiated with 1 Gy of <sup>90</sup>Sr (β particle emitter) at a dose rate of 0.13 Gy/min and 1 Gy of <sup>60</sup>Co (gamma rays) at the dose rate of 0.24Gy/min. The detection of genotoxic effect of crotoxin in AR42J cells by using the micronucleus assay in vitro was demonstrated and can be applied for the screening of other venom fractions.

**KEY WORDS:** genotoxicity, micronucleus assay, snake venom.

**CORRESPONDENCE TO:** Miriam Fussae Suzuki, Centro de Biotecnologia, Instituto de Pesquisas Energéticas e Nucleares, IPEN – CNEN/SP, Av. Prof. Lineu Prestes 2242, Cidade Universitária, São Paulo – SP, 05508-000, Brazil. Phone: + 55 3816 9236. Fax: + 55 3816 9231. Email: mfsuzuki@ipen.br