

EFFECTS OF GAMMA RADIATION ON *CROTALUS DURISSUS TERRIFICUS* VENOM

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Ionizing radiations are sufficiently energetic to be capable of severing any chemical bond and as result molecules of every substance present in the solution will be chemically changed and their biological properties affected by irradiation. By both direct and indirect action ionizing radiations have been shown to cause loss of biological activity, whether this be enzymatic, hormonal or immunological. A pool of crotamine positive *Crotalus durissus terrificus* venom was dissolved in 0.85% NaCl and the supernatant irradiated with  $^{60}\text{Co}$  gamma radiation. Doses of 100 Gy, 250 Gy, 500 Gy and 1000 Gy were used at the dose rate of  $1.25 \times 10^3$  Gy/h. The presence of free SH, casein enzymatic hydrolysis, SDS-PAGE and  $\text{LD}_{50}$  in mice were used to test the properties of irradiated and non irradiated fractions. The Ellman's reaction for free SH showed to be positive only at 1000 Gy. The enzymatic casein hydrolysis was not altered in the range of doses used, although the SDS-PAGE pattern showed an increase of diffuse bands of protein aggregates. The  $\text{LD}_{50}$  in mice remained unchanged for the doses of 100 and 250 Gy but increased 1.7 times with 500 Gy and 3.0 times with 1000 Gy. These preliminary results suggest a high resistance of the *Crotalus durissus terrificus* venom to gamma radiation in spite of the fact that the biological activity was changed in the higher doses.

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