

Neutralization of coagulant and hyaluronidase activities of bothropic and crotalic venoms by the serum of *Crotalus durissus collilineatus*

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Venomous and non-venomous snakes display inhibitory proteins in their blood plasma in order to protect themselves against toxins from snake venoms, which could, eventually, reach the circulatory system. Many studies have been carried out in search for these natural inhibitors. This work reports the neutralization of coagulant and hyaluronidase activities from *Bothrops* and *Crotalus* snake venoms (SVs) by the whole serum of *Crotalus durissus collilineatus* (C.d.c) and its fractions obtained after chromatography on Q-Sepharose. The clotting activity was performed by mixing 150µL of citrated bovine plasma at 37°C with different amounts of the (SVs) and the capacity of SVs to hydrolyze the hyaluronic acid was evaluated by turbidimetric assay. The neutralization of enzymatic activities was performed by previous incubation of different SVs with serum or its fractions on ratios 1:1, 1:5 and 1:10 (w/w). The serum was more efficient in neutralizing the enzymatic activities on ratio 1:10 (SVs:c.d.c serum, w/w). The fraction P2 was able to inhibit approximately 60% of coagulant activity for all venoms on ratio 1:5 (SVs:P2 fraction, w/w). On the other hand, the hyaluronidase activity was more inhibited by P1 and P4 fractions. The SDS-PAGE of P2 fraction showed a good level of purity, however, it will be necessary new chromatography steps for the isolation and structural and functional characterization of these enzymatic inhibitors.

Keywords: *Crotalus durissus collilineatus*; Inhibitors; Snake venoms

Support: FAPEMIG, CNPq, UFU.