Biochemical characterization of phospholipase A₂ inhibitor partially isolated from serum of snake *Caudisona durissa colillineatus*

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Phospholipase inhibitors A₂ (PLA₂) are an important mechanism against the toxic effects of snake venoms. The purpose of this study was to partially isolate an inhibitor of PLA₂ from the serum of the *Caudisona durissa colillineatus* (Cdc) snake. The Cdc serum was initially fractioned on Q-Sepharose Fast Flow column, resulting in six major protein peaks (A₂₈₀ nm) named Q1 to Q6. The active fraction (Q4) was further fractionated on NHS/affinity column immobilized with a PLA₂ (BnSP-7) resulted in two fractions named NHS-1 and NHS-2. For neutralization assays, the fractions were previously incubated with different bothropic venoms or an acidic PLA₂ previously purified from the *B. pauloensis* venom at 1:5, 1:10, and 1:20 (w/w) ratios for 30 min at 37 °C. These samples were assayed enzymatically by PLA₂ potentiometric method. Q4 fraction was efficient in neutralize the PLA₂ activity of different venoms at ratio 1:20 (w/w). NHS-2 fraction inhibited 32%, 45% and 100% the PLA₂ activity of the acid PLA₂ from *B. pauloensis* at ratios 1:1, 1:2 e 1:5 (w/w), respectively, and showed a good degree of purity when analyzed by SDS-PAGE. Therefore, the Cdc serum contains PLA₂ inhibitors, being that one of these was partly isolated, with an excellent inhibitory potential against the action of bothropic PLA₂s. The isolation and structural characterization of these inhibitors may prove useful to understand their action mechanisms, as well as to assist in the treatment of snake envenomation.

Word Keys: Snake venoms, Phospholipase A₂, Inhibitors PLA₂.

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