

Identification Of Biomarkers From *Bothrops jararacussu* Venom With Potential Application Of Development Of Venom Detection Kit.

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Snakebites are a public health problem. Twenty-eight-thousand accidents were reported in the last year and approximately 90% of them are inflicted to *Bothrops* genus. Among the questions about this genus, *B. jararacussu* has highlighted discussions about the effectiveness of antivenom serum for neutralization of this venom. Vital Brazil in 1911 was the first to notice that *B. jararacussu* venom could not be efficiently neutralized by antivenom serum and, in this case, should be associated with antivenom serum. After this, others researches showed that the association of antivenom and antivenom sera provide more effective neutralization for myotoxic, coagulant and lethal activities than these sera is used alone. The antivenom-crotalic sera is commonly used in doubt cases that the attendant can not identify the signs and symptoms characteristics to distinguish the genus related or for confirmed snakebites by *B. jararacussu*. In fact, the confirmed *B. jararacussu* accidents are rare because there are not methods or molecular tools to help the attendants to determine the exact specie of snake responsible for the accident. This is an important information to have for the choice of the antivenom. In this work, we show the proteome and the immunological analysis of *B. jararacussu* venom and looked for molecules with potential use as biomarkers. For our purpose, we raised in horses the specie-specific serum for *B. jararaca* and *B. jararacussu*. The proteins were identified by a classical proteomic approach. A Lys-49 PLA<sub>2</sub> with 16 kDa identified as Bothropstoxin-I was purified and polyclonal antibodies against this molecule were raised in rabbit. These antibodies were purified excluding the cross-reactivity with *B. jararaca* venom and its specificity was evaluated. We found a specific reactivity for *B. jararacussu* analyzing pooled and individual venoms. These data provide insights into the application of anti-BthTX-I for the development of a snake venom detection kit for identification of accidents caused by *B. jararacussu*.

Keywords: *Bothrops jararacussu*, snakebites, Bothropstoxin-I, proteomic and venom.

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