

BPr-TXI: A New Acid Phospholipase A<sub>2</sub> (Asp49) Identified From Venom Gland Transcriptome of *Bothrops pauloensis*.

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The phospholipase A<sub>2</sub> (PLA<sub>2</sub>, E.C. 3.1.1.4) superfamily is defined by enzymes that catalyze the hydrolysis of the *sn*-2 bond of phosphoglycerides. Most PLA<sub>2</sub>s from the venom of *Bothrops* species are basic proteins, which have been well characterized both structurally and functionally, however, little is known about acidic PLA<sub>2</sub>s from this venom. Nevertheless, it has been demonstrated that they have high catalytic activity and show the ability to inhibit platelet aggregation. In addition, they can produce any toxic effects as myotoxicity, edema and myonecrosis. To further understand the function of these proteins, we have isolated by cDNA that encodes an acidic PLA<sub>2</sub>, named BPr-TXI, from venom gland transcriptome of *Bothrops pauloensis*. The full-length nucleotide sequence of 420 bp encodes a predicted gene product with 139 amino acid with theoretical 13,649 kDa, with significant sequence similarity to many other phospholipase A<sub>2</sub> from snake venoms. This enzyme is an isoform of Bp-PLA<sub>2</sub> isolated from the *Bothrops pauloensis* snake venom. Analysis of the toxic and pharmacological activities of this recombinant protein will be conducted for elucidation of the structure–function relationships of these toxins of biotechnological interest.

Key words: *Bothrops pauloensis*; cDNA; acidic PLA<sub>2</sub>.

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