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Sommario	Envenoming due to snake bite is a neglected disease that is a very important public health problem in rural regions of Africa, Latin America and Asia. Snakes from the genus Bothrops cause most of the snake bites in Latin America. Phospholipases A2 (PLA2s) are major components of the venoms from this genus, exerting myotoxicity as one of their most relevant toxic actions. Many parts of the mechanism of action by which these proteins damage muscle cells are not known. Therefore, it is crucial to further study these toxins. In the first part of this work, the measurement of the hydrolysis of phospholipids caused by the addition of myotoxin I (Mt-I) and myotoxin II (Mt-II) from the venom of Bothrops asper to C2C12 myotubes, and the ex vivo injection of the venom of B. asper, Mt-I, and Mt-II in tibialis anterior muscles of CD-1 mice was performed. Results show that Mt-I and B. asper venom caused an increase in lysophosphatidilcholine (lysoPC) and lysophosphatidilethanolamine (lysoPE) species, while Mt-II generated no significant production of lysophospholipids of any of these species. These results show for the first time that Mt-I and B. asper venom are able to hydrolyze phospholipids when injected in muscles. Their main products of hydrolysis are lysoPC and lysoPE, and their proportions indicate that the main site of action of Mt-I is the external part of the plasma membrane. Mt-II, which causes Ca2+ entry into muscle cells, does not cause a significant activation of the endogenous PLA2s in

	injected muscles. ATPase, ADPase and nucleotidase activities of B. asper venom were quantified in the second part, and the role of these activities in venoms containing myotoxins was analyzed. Since myotoxins release ATP in cultured myotubes as well as in vivo, there is a combined action with ATPase, ADPase and nucleotidase activities in the venom that creates a high concentration of adenosine, which has hypotensive, paralyzing and anti-coagulant activities. In the third part, which contains the ongoing experiments, a conjugation reaction of Mt-I with peptide derivatives using a transglutaminase enzyme has been developed. Mt-I was modified in a single amino acid, with a good percentage of catalytic and toxic activity still present. The aim is to obtain a Mt-I conjugated to a fluorophore to study the localization of the toxin in cultured myotubes or when injected in mouse tibialis anterior muscles. Subsequently, Mt-I will be conjugated to a biotin derivative as a tag to isolate the toxin after cell intoxication together with interacting proteins or other molecules
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