

IDENTIFICATION AND PURIFICATION OF A FIBRINOGENOLYTIC PROTEASE FROM SCORPIONFISH VENOM.

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The scorpionfish, *Scorpaena plumieri*, is a venomous fish which belongs to Scorpaenidae family. Stings by the scorpionfish are quite common and extremely painful, accompanied by swelling and erytoma. An initial characterization of the properties of this venom showed the presence of hemolytic and enzymatic activities. In this work we describe the effects of *S. plumieri* venom on human fibrinogen and the purification of a fibrinogenolytic enzyme. SDS-PAGE analysis demonstrated that the scorpionfish whole venom preferentially hydrolyses the α and β chains of fibrinogen. A fibrinogenolytic fraction was obtained from the whole venom through a combination of two gel filtration chromatographies: Sephacryl S200 and Superose 12/FPLC. Analysis of the purified fraction by reversed phase chromatography showed the presence of four components with very close retention (34.2-36.6%ACN) and molecular masses (16,839-16,997Da), leading us to suppose that they are isoforms of the same protein. The complete amino acid sequence of one of these compounds was determined by automated sequencing of the intact protein and peptides resulting from enzymatic digestion. This protein (142 residues) exhibits significant sequence similarities with C-type lectins. This is the first report of detection and purification of a fibrinogenolytic protease from *S. plumieri* venom. Further investigations will help to elucidate the role of this enzyme on scorpionfish envenomation.

Key words: *Scorpaena plumieri*, fish venom, fibrinogenolytic protease.

Financial support: CNPq, CAPES, PROBRAL (DAAD/CAPES), FUNED.