PURIFICATION AND PARTIAL CHARACTERIZATION OF A PROTEOLYTIC ENZYME FROM *EUPHORBIA MILLII*

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Introduction. The latex is a whitish secretion, or rarely yellowish produced by some plants as the *Euphorbia millii*, that it has the function of provoking the cicatrization of the damaged tissue, through where it flowed. Objective: In this work, a proteolytic enzyme was purified from latex of *Euphorbia millii* by a combination of gel ion exchange on DEAE Sephacel, and gel filtration on Sephadex-G75 chromatography. Results: Sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) stained with coomassie blue in the presence of ß-mercaptoethanol showed that the enzyme is a single chain polypeptide with a mol. wts of 32,000. The enzyme cleaves the Aα-chain of fibrinogen first, followed by the Bβ-chain, and shows no effects on γ-chains. The fibrinogenolytic activity of protease was stable in solution at up to 70°C. The inhibitory effects of ß-mercaptoethanol on the fibrinogenolytic activity revealed the important role of the disulfide bonds in the stabilization of the native structure. The activity of the enzyme was completely inhibited by benzamidine, and EDTA, specific serine and metalloproteinase inhibitor had no effect on fibrinogenolytic activity. Conclusion: In this work, we purified and partially characterized a proteolytic enzyme from *Euphorbia millii latex.*

Keyword: *Euphorbia millii*, protease.