Purification and Partial Characterization of Protease from Biduri (Calotropis gigantea) Latex

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Abstract

The main objectives of this research we to purify protease from biduri (Calotropis gigantean) latex and its partial characterization in relation with this application in the food processing. Protease was extracted from biduri latex by using ammonium sulphate 35-80%, dialyzed and then purified subsequently through sephadex G-25 gel and CM sephadex C-50 caution exchanger. Biduri protease has specific activity of 59 unit/g in casein substrate. Optimum pH was 7 and temperature 55^0C. Apparent Km was 21.63 g/ml and reaction maximum velocity (Vmax) being 18.9 mg/ml/min. SDS-PAGE (Sodium Dodecyl Sulfate-Polyacrylamide Gel Electrophoresis) analysis showed the apparent molecular weight of the protease was 25.2 kD. Moreover, the protease can be inactivated at 90^0C for 10 min, or 60^0C for 30 min.

Key Word : *biduri (Calotropis gigantea), protease, purification, characterization.*