

## **PARTIAL PURIFICATION OF PECTINASES PRODUCED BY THE FILAMENTOUS FUNGUS *Aspergillus niveus***

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Pectinases are important industrial enzymes which may be classified in esterases and depolymerases. These enzymes catalyze the degradation of pectic substances that occur in higher plants, and are constituted by a main chain of polygalacturonic acid branched with other sugars. Pectinases are mainly produced by several *Aspergillus sp*, however nothing is known about this enzyme from *A. niveus*. The aim of this work was to standardize cultivation conditions and physico-chemical parameters for pectinase production and the partial purification of a crude filtrate by ion exchange chromatography. The assays were carried out with 1% polygalacturonic acid in 100 mM sodium acetate buffer, pH 6.0. The reducing sugar formed was quantified with 3',5' dinitrosalicylic acid. The optimized conditions were: Czapeck medium added of 1% pectin (Sigma), at 30°C, for 9 days under stationary conditions, or 2 days under agitation. Citric fruits peels were also good inducers of polygalacturonases and also low levels of pectin and pectate lyases. Regarding polygalacturonase, it was observed a maximum activity at pH 4.0 and 55°C. This enzyme was thermal stable for 90 min at 60°C. The enzyme was activated by 1mM Mn<sup>++</sup> (17%) and EDTA (10%). The polygalacturonase was partially purified by 80% ammonium sulfate precipitation, elution in DEAE cellulose, followed by Biogel P100.

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