

## **PRODUCTION AND PARTIAL CHARACTERIZATION OF PROTEASES FROM *BACILLUS SUBTILIS***

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The present report has the aim of screening of 18 species of *Bacillus* and production and partial characterization of their proteases. Growth medium for screening was Agar-casein Agar-gelatin 1%(w/v). After that it was made the partial characterization of proteases obtained from the best producer using soy medium 1%(w/v). Microorganism was submitted in the soy medium in Shaker 120 RPM 37°C for 36h. The extracellular enzymes were obtained after centrifugation (8000 rpm; 4° C, 10 min). Proteolytic activity was determined using azocasein 1%(w/v) as substrate. None of the samples consumed gelatin substrate. The highest using Agar-casein was 2,5 cm. The protein concentration of the preparation was 0.118 mg<sup>-1</sup>. The enzyme was active in temperature range 45-65 °C, and optimum pH was 9.0 (0.1 M Tris-HCl buffer). The enzyme retained about 70% of initial activity after 120 min at 25-45°C. In the pH range 6-9 the enzymes were stable for 120 min, retaining about 80% of initial activity. None of the metal ions tested showed a significant inhibition of protease. Without ions NO<sub>3</sub><sup>+</sup> was observed an increase in the proteolytic activity (11-64%). The use of specific substrates protease inhibitors identified the presence of serine-protease and chymotrypsin-like enzymes. The Suc-Phe-p-Nan proteolysis was inhibited 96.9% by PMSF and 60.9% by TPCK.

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