BIOCHEMICAL CHARACTERIZATION OF THE AMYLASES PRODUCED BY THE FILAMENTOUS FUNGUS *ASPERGILLUS niveus*

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Amylases hydrolyze starch in glucose, maltose and maltooligosaccharides. They are classified in endoamylases, which hydrolyze α-1,4 linkages into the starch molecule, and exoamylases, which act at the non reducing end. They are obtained from several sources, such as plants, animals and microorganisms. The enzymes from microbial sources generally have industrial demands. The aim of this work was to characterize the best conditions for crude amylolytic activity in *Aspergillus niveus*. Amylase activity was assayed with 1% (w/v) soluble starch in 0.10 M acetate buffer, pH 5.0 and 60°C for 10 min. The reducing sugar released was measured by the 3',5' dinitrosalicylic method using glucose as a standard. The pH optimum was 5.5 and the temperature optimum was 65°C. The amylases remained stable at pH 3.0 – 7.0 and were fully stable for 6 hours at 50°C. Salts as (0,1 mM) $CaCl_2$, $BaCl_2$, NH_4F, NaBr, KH_2PO_4, $MnCl_2$, $MgCl_2$, $HgCl_2$, NH_4Cl, $CuCl_2$, KCl and NaCl increased the enzymatic activity in 14.5, 14.4, 13.8, 12.2, 12.0, 10.8, 8.4, 8.0, 6.0, 5.0, 4.0 and 2.0%, respectively. In contrast, NaH_2PO_4, β-mercaptoethanol and $CoCl_2$, at the same concentration, decreased the enzymatic activity in 11.0, 8.0 and 22.0%, respectively.

Support: FAPESP and CNPq