

EFFECTS OF PH AND TEMPERATURE ON THE ACTIVITY OF LIPASE PRODUCED BY *ASPERGILLUS NIGER*

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Lipases (EC 3.1.1.3.) are an important group of enzymes mainly due to the large number of industrial applications. In this sense, the characterization of these enzymes is of paramount importance to establish the process conditions for subsequent application. This work aims to evaluate the pH and temperature optimum of a lipase produced by *A. niger* in SSF, concentrated by precipitation with 90% ammonium sulfate. To determine the optimum temperature and pH was made a central composite rotational design (CCRD²), including four central points and four axial points, totaling 12 trials. For temperature were used: 30°C, 37°, 55°, 73° and 80°C and the variable pH, we used the sodium citrate buffer pH 3.0, 3.6 and 5.6 and sodium phosphate buffer at pH 7.3 and 8.0. For the determination of lipase activity was prepared an emulsion consisting of water and olive oil (1:1 v / v) and 7% gum arabic. For the hydrolysis reaction was used 5mL of an emulsion with 4 ml of buffer according to experimental design and 1 ml of concentrated extract. Samples were kept in water bath at different temperatures for 15 minutes under stirring at 100 rpm. The activity was determined by titration with 0.05 N NaOH. After validation of the model by analysis of variance ($p < 0.05$), it was found that the optimal region is at a pH of 3.0 to 5.6 and temperature 30°C - 55°C at which the best results were obtained for lipase activity (34.75 U/ml).