

Invertase from *Aspergillus terreus* grown in minimum media containing sucrose as carbon source

PAIVA, R.M.C.¹; DAMASCENO, J.D.¹; RIBEIRO, L.F.¹; COSTA, L.F.¹; FABRES, M.H.A.¹; KLEIN, R.C.¹; SILVA, D.F.¹; DE REZENDE, S.T.¹; DE QUEIROZ, J.H.¹

¹Department of Biochemistry and Molecular Biology, Universidade Federal de Viçosa, UFV, Minas Gerais, Brazil.

Invertase is a β -fructofuranosidase glico-enzyme that hydrolyses sucrose generating fructose and glucose. Kinetic parameters of invertase had already been studied, changing with the source and the degree of the preparation pureness. Objectifying the kinetic characterization of the enzyme of *Aspergillus terreus*, it was cultivated in minimum media containing sucrose as carbon source. DNS and Bradford methods were used for enzymatic activity and protein quantification, respectively. It was made in the fungus culture crude extract and after an ultra-filtration. The sample was submitted to a gel column filtration to eliminate other proteins and other interferences. A pool of invertase with the higher activity and the minor protein teor was verified in the fractions with retention time of 3.5 to 4.5 hours. The maximum specific activity was 731.47 U mg⁻¹. K_M , $V_{m\acute{a}x}$, the pH and temperature effect and the time curve were determined. The enzyme presented greater activity in the ranch of pH 4.5 to 5.0 and in the temperature between 35 and 58°C. The K_M , found in the optimum temperature of 56°C, was 15.6 mM. These results suggest that this enzyme is an isoform different from the one produced when the fungi is cultivated in sugar cane media. (DBB/UFV)