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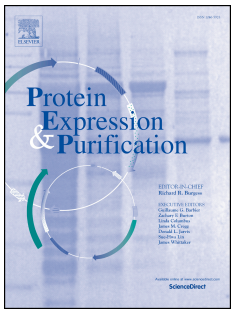

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Kinetic Properties Analysis of Beta-mannanase from *Klebsiella oxytoca* KUB-CW2-3 expressed in *Escherichia coli*

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Abstract

Endo-1,4-β-mannanase is an enzyme that can catalyze the random hydrolysis of β-1,4-mannosidic linkages in the main chain of mannans, glucomannans and galactomannans and offers many applications in different biotechnology industries. Purification and kinetic properties of the endo-1,4-β-mannanase from recombinant *Escherichia coli* strain KMAN-3 were examined. Recombinant β-mannanase (KMAN-3) was purified 50.5 fold using Ni-NTA Agarose resin and specific activity of 11900 U mg^{-1} protein was obtained. Purified KMAN-3 showed a single band on SDS-PAGE with a molecular weight of 43 kDa. K_m and V_{max} values of KMAN-3 on ivory nut mannan, locust bean gum, defatted copra meal and konjac glucomannan were 243, $3.83x10^5$ 37 and $2.13x10^6$ mg ml^{-1} and 2940, 61100, 3930 and $1.56x10^{10}$ mg^{-1}, respectively. Carboxymethyl cellulose was not digested by KMAN-3.

Keywords : Mannan, β-mannanase, Glucomannan, Galactomannan