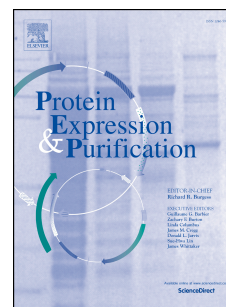


Accepted Manuscript

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PII: S1046-5928(17)30685-X

DOI: [10.1016/j.pep.2018.01.009](https://doi.org/10.1016/j.pep.2018.01.009)

Reference: YPREP 5215

To appear in: *Protein Expression and Purification*

Received Date: 7 November 2017

Revised Date: 19 January 2018

Accepted Date: 19 January 2018

Please cite this article as: P. Tuntrakool, S. Keawsompong, Kinetic properties analysis of beta-mannanase from *Klebsiella oxytoca* KUB-CW2-3 expressed in *Escherichia coli*, *Protein Expression and Purification* (2018), doi: 10.1016/j.pep.2018.01.009.

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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, 3.83x10⁵ 37 and 2.13x10⁶ mg ml⁻¹ and 2940, 61100, 3930 and 1.56x10¹⁰ mg⁻¹, respectively. Carboxymethyl cellulose was not digested by KMAN-3.

Keywords : Mannan, β -mannanase, Glucomannan, Galactomannan

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