

**KINETIC PROPERTIES OF THE PURIFIED XYLANASE FROM
*BACILLUS PUMILUS***

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The number of potential applications of microbial xylanases in the pulp and paper industry is gradually increasing and several are approaching commercial use. This industry needs a xylanase, which is very active under alkaline and thermostable conditions. The objective of this study was to determine the kinetic properties of purified xylanase from *Bacillus pumilus* isolated from corn cob decaying soil and identified by morphological and genotypic characterizations. Purified xylanase obtained from ammonium sulphate precipitation followed by Sephadex G 75 gel filtration and showed zero order kinetics for 4 min and gave highest xylanase activity [$193.7 (\pm 0.26) \text{ U mL}^{-1}$] at 60 °C and pH 8.4. Purified enzyme showed high specific activity against xylan and showed no activity with carboxy methyl cellulose, starch and avicel. Therefore this purified xylanase had no amylase and cellulase activities, could hydrolyse the xylan chain which contains large number of xylose residues with low amount of degree of substitution. Thin layer chromatography showed that purified xylanase produced xylotriose as the final hydrolysed product of birch wood xylan. Based on the study, this purified xylanase may be useful in industrial applications for bio-bleaching of paper pulp to remove the hemicellulose.

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