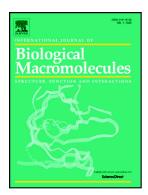
Accepted Manuscript

Biochemical characterization, low-resolution SAXS structure and an enzymatic cleavage pattern of BlCel48 from Bacillus licheniformis



Evandro Ares de Araújo, Lívia Regina Manzine, Vasily Piyadov, Marco Antonio Seiki Kadowaki, Igor Polikarpov

 PII:
 S0141-8130(17)34574-9

 DOI:
 https://doi.org/10.1016/j.ijbiomac.2017.12.138

 Reference:
 BIOMAC 8800

To appear in:

Received date:	19 November 2017
Revised date:	17 December 2017
Accepted date:	25 December 2017

Please cite this article as: Evandro Ares de Araújo, Lívia Regina Manzine, Vasily Piyadov, Marco Antonio Seiki Kadowaki, Igor Polikarpov, Biochemical characterization, low-resolution SAXS structure and an enzymatic cleavage pattern of BlCel48 from Bacillus licheniformis. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Biomac(2017), https://doi.org/10.1016/j.ijbiomac.2017.12.138

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Biochemical characterization, low-resolution SAXS structure and an enzymatic cleavage pattern of *Bl*Cel48 from *Bacillus licheniformis*

Evandro Ares de Araújo^a, Lívia Regina Manzine^a, Vasily Piyadov^a, Marco Antonio Seiki Kadowaki^a and Igor Polikarpov^{a*}

^a Instituto de Física de São Carlos, Universidade de São Paulo, Av. Trabalhador Sãocarlense, 400, São Carlos, SP, CEP 13560-970 Brazil .

*Corresponding author: Igor Polikarpov, ipolikarpov@ifsc.usp.br
Universidade de São Paulo, Departamento de Física e Ciência Interdisciplinar, Instituto de Física de São Carlos. Av. Trabalhador São-carlense, 400, São Carlos, SP, CEP
13560-970 Brazil. Phone: +55 16 33738088, Fax: +55 16 33739876.

ABSTRACT

Economic sustainability of modern biochemical technologies for plant cell wall transformations in renewable fuels, green chemicals, and sustainable materials is considerably impacted by the elevated cost of enzymes. Therefore, there is a significant drive toward discovery and characterization of novel carbohydrate-active enzymes. Here, the *Bl*Cel48 cellulase from *Bacillus licheniformis*, a glycoside hydrolase family 48 member (GH48), was functionally and biochemically characterized. The enzyme is catalytically stable in a broad range of temperatures and pH conditions with its enzymatic activity at pH 5.0 and 60 °C. *Bl*Cel48 exhibits high hydrolytic activity against phosphoric acid swollen cellulose (PASC) and bacterial cellulose (BC) and significantly

Download English Version:

https://daneshyari.com/en/article/8327827

Download Persian Version:

https://daneshyari.com/article/8327827

Daneshyari.com