

## Lichenase 26A & Cellulase 5E, *Clostridium thermocellum*

### CtLic26A-Cel5E (GH26-GH5-CBM11)

Catalogue number	Presentation
CZ00531	0.6 mg
CZ00532	3 x 0.6 mg

#### Description

Lichenase 26A & Cellulase 5E (CtLic26A-Cel5E), assigned the E.C. number 3.2.1.73 and 3.2.1.4, is a derivative of *Clostridium thermocellum*. It is a bifunctional endo-1,3-1,4- $\beta$ -glucanase and endo-1,4- $\beta$ -glucanase. The recombinant CtLic26A-Cel5E, purified from *Escherichia coli*, is a modular Glycoside Hydrolase family 5 (GH26-GH5-CBM11) enzyme (see more details at [www.cazy.org](http://www.cazy.org)). The protein is supplied in a solution containing 35 mM NaHepes buffer (pH 7.5), 750 mM NaCl, 200 mM Imidazole, 3.5 mM CaCl<sub>2</sub>, and 25% (v/v) glycerol, at a concentration of 0.6 mg/mL. Bulk quantities of this product can be made available upon request. To place an order, simply visit our website. We offer fast and secure shipping worldwide.

#### Electrophoretic Purity

The molecular integrity and purity of CtLic26A-Cel5E (GH26-GH5-CBM11) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).



**Figure 1.** SDS-PAGE analysis of CtLic26A-Cel5E (GH26-GH5-CBM11) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 92,04 kDa. Lane M contains a Protein Marker for reference.

#### Storage temperature

The protein should be stored at -30°C to -15°C in a constant temperature freezer. The protein will remain stable till the expiry date if stored as specified.

#### Substrate specificity

CtLic26A-Cel5E (GH26-GH5-CBM11) hydrolyses is a bi-functional enzyme that hydrolyses mixed 1,3-1,4- $\beta$ -glucans (GH26) and 1,4- $\beta$ -glucans (GH5).

## Temperature and pH optima

The enzyme exhibits optimal activity within a pH range of 4.5-8.0 and at a temperature of 60°C. Maximal enzymatic activity is achieved at pH 6 and a consistent temperature of 60°C.

## Specific activity

CtLic26A-Cel5E (GH26-GH5-CBM11) specific activity is 700 U/mg, using barley  $\beta$ -glucan as substrate.

## Enzyme activity

Substrate specificity and kinetic properties of CtLic26A-Cel5E (GH26-GH5-CBM11) are detailed in the referenced publication provided below. To perform enzyme assays and determine specific activity values, adhere to the methodology outlined in the cited paper(s).

## Reference

Taylor *et al.* (2005) J. Biol. Chem. 280, 32761-32767.

Yuan *et al.* (2015) J. Biol. Chem. 290 (9), 5739-5748.

## Customer Support

Our dedicated customer support team is always ready to assist you with any questions or technical issues you may have. Reach us via email at [info@nzytech.com](mailto:info@nzytech.com).

## Quality control assay

Protein purity is determined to be  $\geq 90\%$ , as assessed by SDS-PAGE and subsequent BlueSafe staining (MB15201).

For life science research only. Not for use in diagnostic procedures.

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**NZYtech Lda.** Estrada do Paço do Lumiar, Campus do Lumiar - Edifício E, R/C, 1649-038 Lisboa, Portugal Tel.: +351.213643514 Fax:  
+351.217151168 [www.nzytech.com](http://www.nzytech.com)