

## Cellulase 5A, *Cellvibrio mixtus* x *Clostridium thermocellum*

### **CmCel5A (GH5-CBM11)**

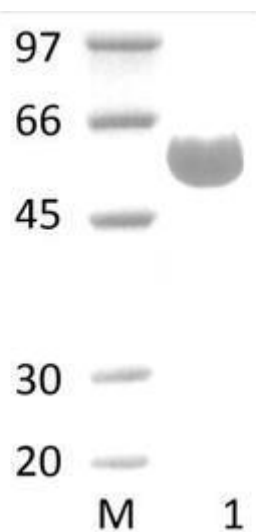
| Catalogue number | Presentation |
|------------------|--------------|
| CZ00231          | 2 mg         |
| CZ00232          | 3 x 2 mg     |

#### Description

Cellulase 5A (*CmCel5A*), assigned the E.C. number 3.2.1.4, is a derivative of *Cellvibrio mixtus* x *Clostridium thermocellum*. It is an endo-1,4- $\beta$ -glucanase. The recombinant *CmCel5A*, purified from *Escherichia coli*, is a modular Glycoside Hydrolase family 5 (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 2 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 *CmCel5A* (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 *CmCel5A* (GH5-CBM11) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 61,08 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

*CmCel5A* (GH5-CBM11) hydrolyses soluble cellulose (carboxymethylcellulose, hydroxyethylcellulose, etc) and 1,3-1,4- $\beta$ -glucans.

#### Temperature and pH optima

The enzyme exhibits optimal activity within a pH range of 7.0-8.5 and at a temperature of 50°C. Maximal enzymatic activity is achieved at pH 7.5 and a consistent temperature of 50°C.

### Specific activity

*CmCel5A* (GH5-CBM11) specific activity is 900 U/mg, using barley  $\beta$ -glucan as substrate.

### Enzyme activity

Substrate specificity and kinetic properties of *CmCel5A* (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

Fontes *et al.* (1997) *Appl. Microbiol. Biotec.* 48, 473-479.

### 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.