

## $\beta$ -Glucosidase 1A, *Clostridium thermocellum*

### CtBgl1A (GH1)

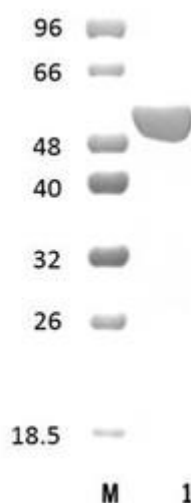
Catalogue number	Presentation
CZ00191	3 mg
CZ00192	3 x 3 mg

#### Description

$\beta$ -Glucosidase 1A (CtBgl1A), assigned the E.C. number 3.2.1.21, is a derivative of *Clostridium thermocellum*. It is a 1,4- $\beta$ -glucosidase. The recombinant CtBgl1A, purified from *Escherichia coli*, is a single-domain Glycoside Hydrolase family 1 (GH1) 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 3 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 CtBgl1A (GH1) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).



**Figure 1.** SDS-PAGE analysis of CtBgl1A (GH1) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 52,70 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

CtBgl1A (GH1) hydrolyses cellobiose and p-nitrophenyl- $\beta$ -D-glucopyranoside.

#### Temperature and pH optima

The enzyme exhibits optimal activity within a pH range of 5.5-7.0 and at a temperature of 60°C. Maximal enzymatic activity is achieved at pH 6 and a consistent temperature of 60°C.

### Specific activity

CtBgl1A (GH1) specific activity is 33 U/mg, using p-nitrophenyl- $\beta$ -D-glucopyranoside as substrate.

### Enzyme activity

Substrate specificity and kinetic properties of CtBgl1A (GH1) 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

Grabnitz *et al.* (1991) Eur. J. Biochem, 200:301-309.

### 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.