

## Laminarinase 81A, *Clostridium thermocellum*

### CtLam81A (GH81)

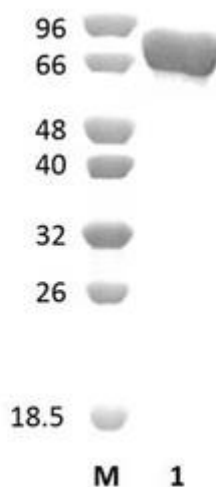
Catalogue number	Presentation
CZ00181	3 mg
CZ00182	3 x 3 mg

#### Description

Laminarinase 81A (CtLam81A), assigned the E.C. number 3.2.1.39, is a derivative of *Clostridium thermocellum*. It is an endo-1,3- $\beta$ -glucanase. The recombinant CtLam81A, purified from *Escherichia coli*, is a single-domain Glycoside Hydrolase family 81 (GH81) 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 CtLam81A (GH81) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).



**Figure 1.** SDS-PAGE analysis of CtLam81A (GH81) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 82,43 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

CtLam81A (GH81) hydrolyses 1,3- $\beta$ -glucans such as laminarin.

#### Temperature and pH optima

The pH optimum for enzymatic activity is 7 while temperature optimum is 75 °C.

### Specific activity

CtLam81A (GH81) specific activity is 1500 U/mg, using laminarin as substrate.

### Enzyme activity

Substrate specificity and kinetic properties of CtLam81A (GH81) 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

Kumar *et al.* (2018) Int J Biol Macromol. 117:890-901.

### 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.