CZ0052_UG_EN_V2302

# Acetyl xylan esterase 4A, *Clostridium thermocellum*

# *Ct*Axe4A (CBM6-CE4)

| Catalogue number | Presentation |
|---|---|
| CZ00521 | 1.5 mg |
| CZ00522 | 3 x 1.5 mg |

## Description

Acetyl xylan esterase 4A (*Ct*Axe4A), assigned the E.C. number 3.1.1.72, is a derivative of *Clostridium thermocellum*. It is an enzyme that participates in the deacetylation of xylans and xylo-oligosaccharides. The recombinant *Ct*Axe4A, purified from *Escherichia coli*, is a modular Carbohydrate Esterase family 4 (CBM6-CE4) enzyme (see more details at 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 $CaCl_2$, and 25% (v/v) glycerol, at a concentration of 1.5 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 *Ct*Axe4A (CBM6-CE4) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).

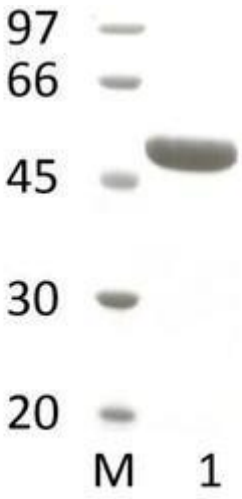


**Figure 1**. SDS-PAGE analysis of *Ct*Axe4A (CBM6-CE4) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 47,72 kDa. Lane M contains a Protein Marker for reference.

## 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

*Ct*Axe4A (CBM6-CE4) participates in the de-esterification of acetate from acetylated xylan.

## Temperature and pH optima

The enzyme exhibits optimal activity within a pH range of 4.5-8.0 and at a temperature of 75°C. Maximal enzymatic activity is achieved at pH 6.5 and a consistent temperature of 75°C.

## Specific activity

*Ct*Axe4A (CBM6-CE4) specific activity is 7 U/mg, using birchwood xylan as substrate.

## Enzyme activity

Substrate specificity and kinetic properties of *Ct*Axe4A (CBM6-CE4) 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

Fernandes *et al*. (1999) Biochem. J. 342, 105-111.

Taylor *et al.* (2006) 281, 10968-10975.

## 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.

## Quality control assay

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

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