

Acetyl xylan esterase 4A, *Clostridium thermocellum*

CtAxe4A (CE4)

Catalogue number	Presentation
CZ00341	4 mg
CZ00342	3 x 4 mg

Description

Acetyl xylan esterase 4A (CtAxe4A), 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 CtAxe4A, purified from *Escherichia coli*, is a single-domain Carbohydrate Esterase family 4 (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 CaCl₂, and 25% (v/v) glycerol, at a concentration of 4 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 CtAxe4A (CE4) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).

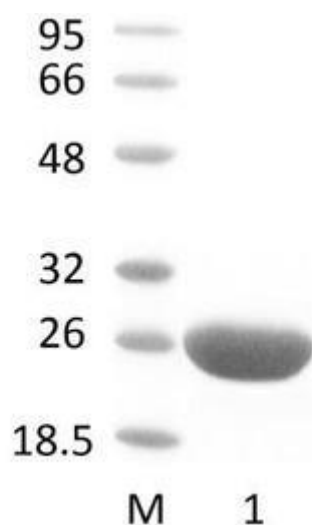


Figure 1. SDS-PAGE analysis of CtAxe4A (CE4) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 23,90 kDa. Lane M contains a Protein Marker for reference.

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

CtAxe4A (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 5.0-7.5 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

CtAxe4A (CE4) specific activity is 10 U/mg, using birchwood xylan as substrate.

Enzyme activity

Substrate specificity and kinetic properties of CtAxe4A (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) *J Biol Chem.* 281(16):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 $\geq 90\%$, 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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