

Cellulase 5C & Acetyl xylan esterase 2A, *Clostridium thermocellum*

CtCel5C-Axe2A (GH5-CE2)

Catalogue number	Presentation
CZ00101	1 mg
CZ00102	3 x 1 mg

Description

Cellulase 5C & Acetyl xylan esterase 2A (CtCel5C-Axe2A), assigned the E.C. number 3.2.1.4 and 3.1.1.72, is a derivative of *Clostridium thermocellum*. It is a bifunctional endo-1,4- β -glucanase and acetyl xylan/glucomannan esterase. The recombinant CtCel5C-Axe2A, purified from *Escherichia coli*, is a modular Glycoside Hydrolase family 5 (GH5-CE2) 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 1 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 CtCel5C-Axe2A (GH5-CE2) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).



Figure 1. SDS-PAGE analysis of CtCel5C-Axe2A (GH5-CE2) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 88,90 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

CtCel5C-Axe2A (GH5-CE2) hydrolyses is a bi-functional enzyme that hydrolyses soluble forms of cellulose and 1,3-1,4- β -glucans (GH5) while releasing acetate from acetylated xylan, glucomannan and galactoglucomannan (CE2).

Temperature and pH optima

The enzyme exhibits optimal activity within a pH range of 6.5-8.0 and at a temperature of 60°C. Maximal enzymatic activity is achieved at pH 7 and a consistent temperature of 60°C.

Specific activity

CtCel5C-Axe2A (GH5-CE2) specific activity is 0 U/mg, using barley β -glucan or p-nitrophenyl acetate, respectively, as substrate.

Enzyme activity

Substrate specificity and kinetic properties of CtCel5C-Axe2A (GH5-CE2) 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

Montanier *et al.* (2009) Proc Natl Acad Sci U S A. 106, 3065-3070.

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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