

Cellulase 5A, *Clostridium cellulovorans*

CcCel5A (GH5)

Catalogue number	Presentation
CZ03061	1 mg
CZ03062	3 x 1 mg

Description

Cellulase 5A (CcCel5A), assigned the E.C. number 3.2.1.4 and 3.2.1.8, is a derivative of *Clostridium cellulovorans*. It is an enzyme that participates in the endohydrolysis of 1,4- β -D-glucosidic linkages in cellulose, lichenin and cereal beta-D-glucans and endohydrolysis of 1,4- β -D-xylosidic linkages in xylans activity. The recombinant CcCel5A, purified from *Escherichia coli*, is a single-domain Glycoside Hydrolase family 5 (GH5) 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 CcCel5A (GH5) were evaluated using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), followed by BlueSafe staining (MB15201) (Figure 1).

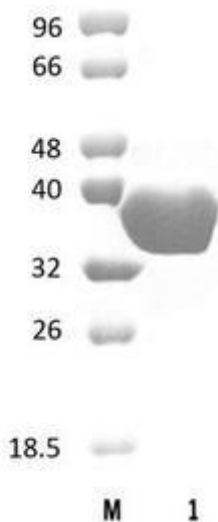


Figure 1. SDS-PAGE analysis of CcCel5A (GH5) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 40,38 kDa. Lane M contains a Protein Marker for reference.

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

CcCel5A (GH5) hydrolyses soluble forms of cellulose, such as carboxymethyl cellulose (CMC), but also xylan and lichenan, but not Avicel.

Temperature and pH optima

The pH optimum for enzymatic activity is 5.2 while temperature optimum is 40 °C.

Enzyme activity

The substrate specificity and kinetic properties of CcCel5A (GH5) 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

Foong *et al.* (1992) *J Bacteriol.* 174(4):1403-9.

Kim *et al.* (1994) *Appl Environ Microbiol.* 60(1):337-40.

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.