

## Cellulase 5G, *Ruminiclostridium thermocellum*

### RtCel5G (GH5)

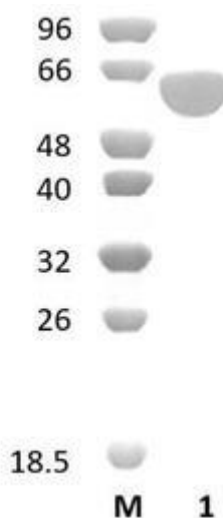
Catalogue number	Presentation
CZ09131	1 mg
CZ09132	3 x 1 mg

#### Description

Cellulase 5G (*RtCel5G*), assigned the E.C. number 3.2.1.4, is a derivative of *Ruminiclostridium thermocellum*. It is an endo-1,4- $\beta$ -glucanase. The recombinant *RtCel5G*, purified from *Escherichia coli*, is a single-domain Glycoside Hydrolase family 5 (GH5) 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 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 *RtCel5G* (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 *RtCel5G* (GH5) was conducted in (Lane 1), employing a 14% polyacrylamide gel. The enzyme exhibits a band corresponding to a molecular weight of approximately 60,92 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

*RtCel5G* (GH5) hydrolyses cellulose, CMC and the artificial substrates 2'-chloro-4'-nitrophenyl- $\beta$ -D-cellobioside (CNPC), pNP- $\beta$ -D-cellobioside.

#### Temperature and pH optima

The pH optimum for enzymatic activity is 6.5 while temperature optimum is 60 °C.

## Enzyme activity

The substrate specificity and kinetic properties of *RtCel5G* (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

Lemaire and Béguin. (1993) *J Bacteriol.* 175(11):3353–3360.

## 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.

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