

Cellobiohydrolase 48A, *Clostridium cellulolyticum* CcCbh48A (GH48)

Catalogue number:

CZ00171, 1 mg
CZ00172, 3 × 1 mg

Description

CcCbh48A (GH48), E.C. number 3.2.1.91, is an exo-1,4- β -glucanase from *Clostridium cellulolyticum*. Recombinant CcCbh48A (GH48), purified from *Escherichia coli*, is a single domain family 48 Glycoside Hydrolase (GH48) (www.cazy.org). The enzyme is provided in 35 mM NaHepes buffer, pH 7.5, 750 mM NaCl, 200 mM imidazol, 3.5 mM CaCl₂ and 25% (v/v) glycerol, at a 1 mg/mL concentration. Bulk quantities of this product are available on request.

Electrophoretic Purity

CcCbh48A (GH48) purity was determined by sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) followed by BlueSafe staining (MB15201) (Figure 1).

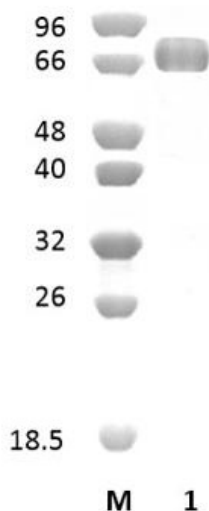


Figure 1. SDS-PAGE analysis of CcCbh48A (GH48) (Lane 1). Electrophoresis was performed using a 14% polyacrylamide gel. The Mw of the enzyme is 78.82 kDa. Lane M contains NZYTech Low Molecular Weight (LMW) Protein Marker (MB082).

Storage temperature

This enzyme should be stored at -20 °C.

Substrate specificity

CcCbh48A (GH48) hydrolyses phosphoric acid-swollen cellulose, Avicel and others forms of insoluble cellulose.

Temperature and pH optima

The pH optimum for enzymatic activity is 5,5-6,5 while temperature optimum is 37 °C.

Specific activity

CcCbh48A (GH48) specific activity is 330 U/mg, measured at 37 °C and pH 5,5-6,5, using phosphoric acid-swollen cellulose as substrate.

Enzyme activity

Substrate specificity and kinetic properties of CcCbh48A (GH48) are described in the reference provided below. Follow the instructions described in the paper for the implementation of enzyme assays and to obtain values of specific activity. To measure catalytic activity of GHs, quantify reducing sugars released from polysaccharides through the method described by Miller (1959; Anal. Chem. 31, 426-428).

Reference

Reverbel-Leroy (1997) J. Bacteriol. 179, 46-52

Quality control assay

Protein purity is $\geq 75\%$ as judged by SDS-PAGE followed by BlueSafe staining (MB15201).

Certificate of Analysis

Test	Criteria	Result
Protein purity	Purity in line with the stated value	Meets specification

Approved by:



Patrícia Ponte
Senior Manager, Quality Systems

For research use only

