

## Recombinant Enzyme Product Specification Sheet

<b>Cat. No.:</b>	PRO-E0045
<b>LOT:</b>	2008-0045
<b>Activity:</b>	Carbohydrate binding module (see comments for activity)
<b>Synonyms:</b>	CBM; CBD; carbohydrate binding domain
<b>Nomenclature:</b>	CtCBM44 is a family 44 cellulose and xyloglucan-binding module
<b>Source organism:</b>	<i>Clostridium thermocellum</i> YS
<b>Enzyme Commission No.:</b>	-
<b>Activity:</b>	} See comments below
<b>Specific activity:</b>	
<b>Purity:</b>	>95% as judged by SDS-PAGE
<b>Form and storage:</b>	Supplied in 3.2 M ammonium sulphate, store at 4°C (shipped at room temperature)
<b>pH optimum:</b>	-
<b>Temperature optimum:</b>	-
<b>[Protein]:</b>	2 mg/mL
<b>Sequence length:</b>	250 amino acids ( <a href="#">view sequence</a> )
<b>Accession No.</b>	<a href="#">BAA12070</a>
<b>Molecular weight:</b>	28430.4 Da (theoretical)
	- (observed by SDS-PAGE)
	- (observed by mass spectrometry)
<b>Biological function:</b>	Binds to cellulose and xyloglucan
<b>Major application(s):</b>	Research
<b>Comments:</b>	Binds to xyloglucan ( $K_a$ $8.2 \times 10^5$ $M^{-1}$ ), hydroxyethylcellulose ( $K_a$ $1.2 \times 10^5$ $M^{-1}$ ), $\beta$ -glucan ( $K_a$ $2.2 \times 10^5$ $M^{-1}$ ), lichenan ( $K_a$ $1.2 \times 10^5$ $M^{-1}$ ) and glucomannan ( $K_a$ $9 \times 10^4$ $M^{-1}$ )
<b>Usage:</b>	Agitate bottle sufficiently to fully homogenise enzyme precipitate before use
<b>Assay:</b>	To recover maximal CtCBM44 activity, centrifuge a required volume of the precipitated protein suspension provided ( $13000 \times g$ for 2 min), remove the supernatant and re-suspend the resulting pellet in the

same volume of 20 mM Tris-HCl, pH 7.5, 20 mM NaCl, 5 mM CaCl<sub>2</sub>.  
Proceed with the assay as required

**Primary sequence:**

MVPENQAPKAIFTFSPEDPVTDENVVFNASNSIDEDGTIAYYAWDFGDGYEGTSTTPTITYKYKNPGTYKVKLIIV  
TDNQGASSFTATIKVTSATGDN SKFN FEDGTLGGFTTSGTNATGVVVNTEKAFKGERGLKWTVTSEGEGETAEL  
KLDGGTIVVPGTTMTFRIWIPSGAPIAAIQPYIMPHTPDWSEVLWNSTWKGYTMVKTDWNEITLTLPEVDVPTW  
PQQMGIQVQTIDEGEFTIYVDAIDW

**Literature:**

1. Najmudin *et al.* (2006) *J. Biol. Chem.* **281**, 8815-8828