

## Recombinant Enzyme Product Specification Sheet

<b>Cat. No.:</b>	PRO-E0039	
<b>LOT:</b>	2008-0039	
<b>Activity:</b>	CtCBM22A	
<b>Synonyms:</b>	Carbohydrate binding module; carbohydrate binding domain	
<b>Nomenclature:</b>	CtCBM22A is a family 22 $\beta$ -1,4-glucan-binding module	
<b>Source organism:</b>	<i>Clostridium thermocellum</i>	
<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>	0.4 mg/mL	
<b>Sequence length:</b>	164 amino acids ( <a href="#">view sequence</a> )	
<b>Accession No.</b>	<a href="#">CAA58242</a>	
<b>Molecular weight:</b>	19204.2 Da	(theoretical)
	-	(observed by SDS-PAGE)
	-	(observed by mass spectrometry)
<b>Biological function:</b>	Binds to $\beta$ -1,4-glucans	
<b>Potential application(s):</b>	<a href="#">Carbohydrate research</a>	
<b>Comments:</b>	CtCBM22A binds to both decorated (wheat arabinoxylan $K_a$ $8 \times 10^4$ $M^{-1}$ and rye arabinoxylan $K_a$ $1.1 \times 10^5$ $M^{-1}$ ) and less decorated (oat spelt xylan $K_a$ $7.6 \times 10^4$ $M^{-1}$ ) xylans. CtCBM22A also binds to barley $\beta$ -glucan ( $K_a$ $7.8 \times 10^2$ $M^{-1}$ )	
<b>Usage:</b>	Agitate bottle sufficiently to fully homogenise enzyme precipitate before use	
<b>Assay:</b>	To recover maximal CtCBM22A activity, centrifuge a required volume of the precipitated protein suspension provided (13000 $\times g$ for 2 min),	

remove the supernatant and resuspend 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:**

MKPEEPDANGYYYHDTFEGSVGQWTARGPAEVLLSGRTAYKGSSESLLVNRNRTAAWNGAQRALNPRTFV  
PGNTYCF SVVASFIEGASSTTFCKMLQYVDGSGTQRYDTIDMKT VGP NQWVHLYNPQYRIPSDATDMY  
VYVETADDTINFYIDEAIGAVAGTVIEG

**Literature:**

1. Charnock *et al.*, (2000) *Biochemistry* **39**, 5013-5021
2. Xie *et al.*, (2001) *Biochemistry* **40**, 9167-9176