

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0010
LOT:	2008-0010
Activity:	Xylanase
Synonyms:	Endo-(1→4)-β-xylan 4-xylanohydrolase; endo-1,4-xylanase; xylanase; β-1,4-xylanase; endo-1,4-xylanase; endo-β-1,4-xylanase; endo-1,4-β-D-xylanase; 1,4-β-xylan xylanohydrolase; β-xylanase; β-1,4-xylan xylanohydrolase; endo-1,4-β-xylanase; β-D-xylanase; 4-β-D-xylan xylanohydrolase; endo-(1→4)-beta-xylan 4-xylanohydrolase; beta-1,4-xylanase; endo-beta-1,4-xylanase; endo-1,4-beta-D-xylanase; 1,4-beta-xylan xylanohydrolase; beta-xylanase; beta-1,4-xylan xylanohydrolase; endo-1,4-beta-xylanase; beta-D-xylanase; 4-beta-D-xylan xylanohydrolase
Nomenclature:	CAZy [GH10, glycoside hydrolase family 10, member of clan GH-A] , xylanase 10B, xylanase Y, XynY, CtXyn10B, CtCBM22-1-GH10-CBM22-2, GH10, CBM22, CBM22-1, CBM22-2, TD-1, TD-2
Source organism:	<i>Clostridium thermocellum</i> YS
Enzyme Commission No.:	3.2.1.8
Activity:	487.5 U/mL } (60°C; pH 6.5; soluble wheat flour arabinoxylan)
Specific activity:	
Purity:	> 95 % by SDS-PAGE
Form and storage:	Supplied in 3.2 M ammonium sulphate, store at 4°C (shipped at room temperature)
pH optimum:	6.5 (stable from 5.0 – 7.5)
Temperature optimum:	65°C (stable up to 72°C)
[Protein]:	0.75 mg/mL
Sequence length:	694 amino acids (view sequence)
Accession No.:	P51584
Molecular weight:	77937.1 Da (theoretical)
	~ 78100 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	Catalyses the endohydrolysis of (1→4)-β-D-xylosidic linkages in xylans
Potential application(s):	Biomass conversion , carbohydrate research

- Comments:** This enzyme is a truncated form lacking the C-terminal dockerin domain and feruloyl esterase catalytic module
- Usage:** Agitate bottle sufficiently to fully homogenise enzyme precipitate before use
- Assay:** One unit is defined as the amount of enzyme required to release 1 μmol of xylose-reducing-sugar equivalents per minute from xylan in phosphate-citrate buffer (50 mM K_2HPO_4 , 12 mM citric acid, pH 6.5) at 60°C, where reducing sugars are measured by the method of Miller (1959; *Anal. Chem.* **31**, 426-428)

Primary sequence:

MSQLYADYEVVHDTFEVNFDFGWCNLDGVDTYLTAVENEGNNGTRGMMVINRSSASDGAYSEKGFYLDGGVEYKYSV
FVKHNGTGTEFKLSVSYLDSETEENKEVIATKDVVAGEWTEISAKYKAPKTAVNITLSITTDSTVDFIFDDVT
ITRKGMAEANTVYAAANAVLKDAMYANYFRVGSVLSGTVNNSSIKALILREFNSITCENEMKPDATLVQSGSTNTN
IRVSLNRAASILNFCAQNNIAVRGHTLVVHWSQTPQWFFKDNFQDNGNWWVSQSVMDQRLESYIKNMF AEIQRQYPS
LNLYAYDVVNEAVSDDANRTRYGGAREPGYGNGRSPWVQIYGDNKFIEKAFYARKYAPANCKLYYNDYNEYWD
HKRDCIASICANLYNKGLLDGVMQSHINADMNGFSGIQNYKAALQKYINIGCDVQITELDISTENGKFSLQQQA
DKYKAVFQAAVDINRTSSKGKVTAVCVWGPNDANTWLGSNAPLLFNANNQPKPAYNAVASIIPQSEWGDGNNPA
GGGGGGKPEEPDANGYYYHDTFEGSVQWQTARGPAEVLVLSGR TAYKGS ELLVRNRRTAAWNGAQRALNPRTFVPG
NTYCFSVVASFIEGASSTTFCKMLQYVDGSGTQRYDTIDMKT VGPNQWVHLYNPQYRIPSDATDMYVYVETADDT
INFYIDEAIGAVAGTVIEG

- Literature:**
1. [Fontes et al. \(1995\) *Biochem. J.* **307**, 151-158](#)
 2. [Xie et al. \(2001\) *Biochemistry* **40**, 9167-9176](#)
 3. [Charnock et al. \(2000\) *Biochemistry* **39**, 5013-5021](#)