

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0029
LOT:	2008-0029
Activity:	Xyloglucanase
Synonyms:	XEG; xyloglucan endo- β -1,4-glucanase; xyloglucanase; xyloglucanendohydrolase; XH; 1,4- β -D-glucan glucanohydrolase; [(1 \rightarrow 6)- α -D-xylo]-(1 \rightarrow 4)- β -D-glucan glucanohydrolase
Nomenclature:	Xyloglucanase 74A, Xgh74A, belongs to GH family 74
Source organism:	<i>Clostridium thermocellum</i> F7/YS
Enzyme Commission No.:	3.2.1.151
Activity:	175 U/mL
Specific activity:	100 U/mg
	} (60°C; pH 7; xyloglucan)
Purity:	>95% as judged by SDS-PAGE
Form and storage:	Supplied in 3.2 M ammonium sulphate, store at 4°C (shipped at room temperature)
pH optimum:	7 (stable from 6 - 8)
Temperature optimum:	60°C (stable up to 65°C)
[Protein]:	1.75 mg/mL
Sequence length:	736 amino acids (view sequence)
Accession No.	CAE51306
Molecular weight:	81930.9 Da (theoretical)
	~ 82100 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	Hydrolyses xyloglucan and soluble forms of β -1,4-cellulose
Potential application(s):	Biomass conversion , carbohydrate research
Comments:	PDB: 2cn2 The Xgh74A of <i>C. thermocellum</i> strain F7 (GenBank entry) is identical to that of strain YS (PDB entry)
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 glucose-reducing-sugar equivalents per minute from xyloglucan in 50 mM phosphate buffer, pH 6.5, at 60°C, where reducing sugars are measured by the method of Miller (1959; *Anal. Chem.* **31**, 426-428)

Primary sequence:

MISSQAVTSVPYKWDNVVIGGGGGFMPGIVFNTEKDLIYARADIGGAYRWDPTSTETWIPLLDHFQMD
EYSYGVESIATDPVDPNRVYIVAGMYTNDWLPNMGAILRSTDRGETWEKTI L PFKMGGNMPGRSMGE
RLAIDPNDNRILYLGTRCGNGLWRSTDYGV TWSKVESFPNPGTYIYDPNFDYTKDIIGV VVVVFDKSS
STPGNPTKTIYVGVADKNESIYRSTDGGV TWKAVPGQP KGLLPHHGVLASNGMLYITYGDT CGPYDGN
GKGQVWKFNTRTGEWIDITPIPYSSSDNRFCFAGLAVDRQNPDIIMV TSMNAWWPDEYIFRST DGGAT
WKNIWEWGMYP ERILHYEIDISAAPWLDWGTEKQLPEINPKLGWMI GDIEIDPFNSDRMMYVTGATIY
GCDNLTDWDRGGKVKIEVKATGIEECAVL DLVSPPEGAPLVS AVGDLVGFVHDDLKVGPKKMHVPSYS
SGTGIDY AELVPNFMALVAKADLYDVKKISFSYDGGRNWFQPPNEAPNSVGGG SVAVAADAKSVIWT P
ENASPAVTTDNGNSWKVCTNLGMGAVVASDRVNGKKFYAFYNGKFYI STDGGLTFTDTKAPQLPKSVN
KIKAVPGKEGHVWLAAREGGLWRSTDGGYT FEKLSNVDTAHVVGFGKAAPGQDYMAIYITGKIDNVLG
FFRSDDAGKTWVRINDDEHGYGAVDTAITGDPRVYGRVYIATNNGRGIVYGE PASDE

Literature: 1. [Martinez-Fleites et al. \(2006\) J. Biol. Chem. 281, 24922-24933](#)