

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0026	
LOT:	2008-0026	
Activity:	Mannanase	
Synonyms:	Mannan endo-1,4- β -mannosidase; endo-1,4- β -mannanase; endo- β -1,4-mannase; β -mannanase B; β -1,4-mannan 4-mannanohydrolase; endo- β -mannanase; β -D-mannanase; 1,4- β -D-mannan mannanohydrolase	
Nomenclature:	Mannanase 26A belongs to GH family 26 (member of clan GH-A)	
Source organism:	<i>Clostridium thermocellum</i> YS	
Enzyme Commission No.:	3.2.1.78	
Activity:	1500 U/mL	} (60°C; pH 6.5; galactomannan)
Specific activity:	1500 U/mg	
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:	6.5 (stable from 6 - 8)	
Temperature optimum:	65°C (stable up to 70°C)	
[Protein]:	1 mg/mL	
Sequence length:	480 amino acids (view sequence)	
Accession No.	CAB52403	
Molecular weight:	40404.2 Da	(theoretical)
	~ 42700 Da	(observed by SDS-PAGE)
	-	(observed by mass spectrometry)
Biological function:	Random hydrolysis of 1,4- β -D-mannosidic linkages in mannans, galactomannans and glucomannans, including carob-bean, locust-bean and ivory-nut mannan	
Potential application(s):	Biomass conversion , carbohydrate research	
Comments:	-	
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 mannose-reducing-sugar equivalents per minute from galactomannan in phosphate-citrate (PC) 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:

ADESIVELKVPKCLVNPATKEAKALMSYLVDIYGKHILSGQQEICGSHNYPGSEAEFTYIQEKTGKL
PAVRGFDFMNYRGNLMWDDQCAERVIEWYKEKGGIPTVCWHWFSPGDIGKKADNSFYTESTTFSISR
ALTPGTEENIALLLNDIDTIARKLKQVQDAGVPVLFRLHEAEGGWFWGAEAGPEPCVRLYRLLYDKFT
NEYGLNLIWVWTSYDYETSAAWYPGDDVVDIIGYDKYNAKDGKPNGSAISSTFYNLVKLTNGKKLVA
MTENDTIPRVSNLVNEKAGWLYFCPWYGWWTSEQNNPVDWLVEMYQSDYCIITLDELPLDKNYPISDY
EDSN

Literature:

1. Halstead *et al.* (1999) *Microbiology* **145**, 3101-3108
2. Kurokawa *et al.* (2001) *Biosci. Biotechnol. Biochem.* **65**, 548-554