

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0008
LOT:	2008-0008
Activity:	Cellulase
Synonyms:	Endo-1,4- β -D-glucanase; β -1,4-glucanase; β -1,4-endoglucan hydrolase; cellulase A; cellulysin AP; endoglucanase D; alkali cellulase; cellulase A 3; celludextrinase; 9.5 cellulase; avicelase; pancellase SS; 1,4-(1,3;1,4)- β -D-glucan 4-glucanohydrolase; 4-(1,3;1,4)- β -D-glucan 4-glucanohydrolase; endo-1,4-beta-D-glucanase; beta-1,4-glucanase; beta-1,4-endoglucan hydrolase; 1,4-(1,3;1,4)-beta-D-glucan 4-glucanohydrolase; 4-(1,3;1,4)-beta-D-glucan 4-glucanohydrolase
Nomenclature:	CAZy [GH5, glycoside hydrolase family 5, member of clan GH-A] , cellulase 5B
Source organism:	<i>Cellvibrio mixtus</i> ATCC 12120
Enzyme Commission No.:	3.2.1.4
Activity:	3325 U/mL
Specific activity:	950 U/mg
	} (37°C; pH 7.5; β -glucan)
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:	7.5 (stable from 6 – 8.5)
Temperature optimum:	37°C (stable at up to 45°C)
[Protein]:	3.5 mg/mL
Sequence length:	298 amino acids (view sequence)
Accession No.:	AAB61462
Molecular weight:	33835.5 Da (theoretical)
	~ 34000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	Catalyses the endohydrolysis of (1 \rightarrow 4)- β -D-glucosidic linkages in cellulose, lichenin and cereal β -D-glucans
Potential application(s):	Biomass conversion , carbohydrate research

- Comments:** Also hydrolyses 1,4-linkages in β -D-glucans also containing 1,3-linkages
- 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 μ mol of glucose-reducing-sugar equivalents per minute from barley β -glucan in 50 mM Tris-HCl, pH 7.5, 5 mM CaCl₂, at 37°C, where reducing sugars are measured by the method of Miller (1959; *Anal. Chem.* **31**, 426-428)

Primary sequence:

MVPALQVQGNKVLVGGKSVSLEGVSLFWSNTGWGAEKIFYTAAAVKRAKTEFNANLIRAAIGHGEGGGIQDDWNGN
MARLDTVIQAAIDNDMYVIVDYHSHKAHENWGSAAEFFKQVAQKWGQHNNVIYELYNEPLGVDWHSVLKPYAEHV
GGKIRAIIDPDNLIIMGTPNWSQDQVDVASTNKANVSNLAYTVHFYADSHRGSYRAKAQTALNNGAALFATEWGVGH
ANRGTVNHAETWAWIDFLRANGISHAGWAFHDKERDQATGEVETSSFFWADGSLKESGRFVKEILAGRKPID

- Literature:** 1. [Fontes et al. \(1998\) Appl. Microbiol. Biotechnol. 49, 552-559](#)