

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0005
LOT:	2008-0005
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 [GH8, glycoside hydrolase family 8, member of clan GH-M] , Cel8A, member of cellulase family D
Source organism:	<i>Clostridium thermocellum</i> ATCC 27405
Enzyme Commission No.:	3.2.1.4
Activity:	500 U/ml
Specific activity:	1000 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 5.0 – 7.5)
Temperature optimum:	60°C (stable up to 65°C)
[Protein]:	0.5 mg/mL
Sequence length:	365 amino acids (view sequence)
Accession No.:	ABN51508
Molecular weight:	41574.8 Da (theoretical) ~ 41700 Da (observed by SDS-PAGE) - (observed by mass spectrometry)
Biological function:	Catalyses the endohydrolysis of (1→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 carboxymethylcellulose 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:

MAGVPFNTKYPYGPSTSIADNQSEVTAMLKAEWEDWKSKRITSNAGAGGYKRVQRDASTNYDTVSEGMGYGLLLAVCFNEQALFDDLYRYVKSHFNGLMHWIHDANNVTSHDGGDGAATDADEDIALALIFADKLWGSSGAINYGQEARTLINNLNHCVEHGSYVLKPGDRWGGSSVTNPSYFAPAWYKVYAQYTGDRWNQVADKCYQIVEEVKKYNNGTGLVPDWCTASGTPASGQSYDYKYDATRYGWRTAVDYSWFGDQRAKANCMLTKFFARDGAKGIVDGYTIQGSKISNNHNASFIGPVAAAASMTGYDLNFAKELYRETVAVKDSEYYGYGNSLRLLTLLYITGNFPNPLSDLS

- Literature:** 1. Cornet *et al.* (1983) *Bio/Technology* **1**, 589-594