

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0022
LOT:	2008-0022
Activity:	Laminarinase
Synonyms:	Endo-1,3(4)- β -glucanase; endo-1,3- β -D-glucanase; laminaranase; β -1,3-glucanase; β -1,3-1,4-glucanase; endo- β -1,3(4)-glucanase; endo- β -1,3-1,4-glucanase; endo- β -(1 \rightarrow 3)-D-glucanase; endo-1,3-1,4- β -D-glucanase; endo- β -(1-3)-D-glucanase; endo- β -1,3-glucanase IV; 1,3-(1,3;1,4)- β -D-glucan 3(4)-glucanohydrolase; 3-(1 \rightarrow 3;1 \rightarrow 4)- β -D-glucan 3(4)-glucanohydrolase; endo-1,3(4)-beta-glucanase; endo-1,3-beta-D-glucanase; beta-1,3-glucanase; beta-1,3-1,4-glucanase; endo-beta-1,3(4)-glucanase; endo-beta-1,3-1,4-glucanase; endo-beta-(1 \rightarrow 3)-D-glucanase; endo-1,3-1,4-beta-D-glucanase; endo-beta-(1-3)-D-glucanase; endo-beta-1,3-glucanase IV; 1,3-(1,3;1,4)-beta-D-glucan 3(4)-glucanohydrolase; 3-(1 \rightarrow 3;1 \rightarrow 4)-beta-D-glucan 3(4)-glucanohydrolase
Nomenclature:	CAZy [GH16, glycoside hydrolase family 16, member of clan GH-B] , endo-1,3(4)- β -glucanase 16A catalytic module from Lic16A
Source organism:	<i>Clostridium thermocellum</i> DSM 1237
Enzyme Commission No.:	3.2.1.6
Activity:	4500 U/mL
Specific activity:	9000 U/mg
	} (60°C; pH 6; barley 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:	6 (stable from 5.5 - 7)
Temperature optimum:	65°C (stable up to 70°C)
[Protein]:	0.5 mg/mL
Sequence length:	222 amino acids (view sequence)
Accession No.:	CAA61884
Molecular weight:	26715.6 Da (theoretical)
	~ 27000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)

Biological function:	Catalyses the endohydrolysis of (1→3)- or (1→4)-linkages in β-D-glucans when the glucose residue whose reducing group is involved in the linkage to be hydrolysed is itself substituted at C-3
Potential application(s):	Biomass conversion , carbohydrate research
Comments:	Substrates include laminarin, lichenin and cereal D-glucans
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 barley β-glucan in 50 mM MES buffer, pH 6, at 60°C, where reducing sugars are measured by the method of Miller (1959; <i>Anal. Chem.</i> 31 , 426-428)

Primary sequence:

MTVVNTPFVAVFSNFDSSQWEKADWANGSVFNCVWKPSQVTF SNGKMILTL DREYGGSYPKSGEYRTKSFFGYG
YYEVRMKAANKVGI VSSFFTYTGPSDNNPWDEIDIEFLGKDTTKVQFNWYKNGVGGNEYLHNLGFDASQDFHTYG
FEWRPDYIDFYVDGKKVYRGTRNIPVTPGKIMMNLWPGIGVDEWLGRYDGRTP LQAEYEYVKYYPNGVPQDN

Literature: 1. Unpublished data