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Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0105
LOT:	2008-0105
Activity:	β-Glucosidase
Synonyms:	Gentiobiase; cellobiase; emulsin; elaterase; aryl-β-glucosidase; β-D-glucosidase; β-glucoside glucohydrolase; arbutinase; amygdalinase; *p*-nitrophenyl β-glucosidase; primeverosidase; amygdalase; limarase; salicilinase; β-1,6-glucosidase; β-D-glucoside glucohydrolase; aryl-beta-glucosidase; beta-glucosidase; beta-D-glucosidase; beta-glucoside glucohydrolase; *p*-nitrophenyl beta-glucosidase; beta-1,6-glucosidase; beta-D-glucoside glucohydrolase
Nomenclature:	CAZy [GH3, glycoside hydrolase family 3]
Source organism:	*Bacteroides fragilis* NCTC 9343
Enzyme Commission No.:	3.2.1.21
Activity:	111.8 U/mL (40°C; pH 4.4; 2 mM *p*NP-β-D-glucopyranoside)
Specific activity:	27.74 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:	4.4
Temperature optimum:	-
[Protein]:	4.03 mg/mL
Sequence length:	744 amino acids (view sequence)
Accession No.:	Q5LIB6, YP_210072.1, BFRA272559:BF0339-MON
Molecular weight:	83500.1 Da (theoretical) ~ 85000 Da (observed by SDS-PAGE) - (observed by mass spectrometry)
Biological function:	Hydrolysis of terminal, non-reducing β-D-glucosyl residues with release of β-D-glucose
Potential application(s):	Biomass conversion, carbohydrate research

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Comments: No detectable activity against either *p*NP-α-D-galactopyranoside or *p*NP-β-D-xylopyranoside

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 *p*NP per minute from *p*NP-β-D-glucopyranoside (2 mM) in 100 mM sodium acetate buffer, pH 4.4, at 40^{o}C, and using an extinction coefficient of 18000 M^{-1} cm^{-1}

Primary sequence:

KPPQDMDRFLDNLLKRMTLEEKIGQLNLPVTGEITTGQAKSSDIATKIKRGEVGGLFNLKGVDKIRDVQHLAVEN
SRLGIPLLFGMDVIHGYETIFPIPLGLSCTWDIPAIEESARIAAVEASADGISWTFSPMVDISRDPRWGRVSEGS
GEDPFLGALIARAMVRGYQGKDMSRNDEIMACIKHFALYGAAEAGRDYNTVDMSRQRMFNDYMLPYQAGVEAGAG
SVMASFNEVEGVPATANKWLMTDVLRGAWGFNGFVVTDFTGISEMIEHGIGDLQTVSARAINAGVDMDMVSEGFI
GTLKKSVEEGKVSVETVNTACRRILEAKYKLGLFDNPYKYCDLKRPARDIFTKEHRAAARKIAGESFVLLKNEGL
SPTLAPVLPLSPTGTIAVIGPLANTRSNMPGTWSVAAVLDKSPSLVEGLTEWVGNQGKILYAKGSNLIGDAAYEE
RATMFGRSLNRDNRTDQQLLDEALKIASQADVIVAALGESSEMSGESSSRTNLNLPDVQHTLLEALLKTGKPVVL
VLFTGRPLVLNWEQEHVPAILNVWFGGSEAGPAIGDVLFGAVNPGGKLTMTFPKSVGQIPLYYAHKNTGRPLKEG
KWFEKFRSNYLDVDNDALYPFGYGLSYTTFRFSDITLNRSSIGMDNELVASVTVTNTGDRAGSEVVQLYIRDLVG
SVTRPVKELKGFEKIYLQPNESRTVRFTIAPEMLKFYNADLKFVAEPGDFDVMIGPDSRNVKTARFTLH

Literature:

1. Cerdeno-Tarraga *et al.* (2005) *Science* **307**, 1463-1465