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Recombinant Enzyme Product Specification Sheet

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Cat. No.:	PRO-E0124
LOT:	2011-0124-1
Activity:	β-Mannosidase
Synonyms:	Mannanase; mannase; β-D-mannosidase; β-mannoside mannohydrolase; exo-β-D-mannanase; β-D-mannoside mannohydrolase; beta-mannosidase; beta-D-mannosidase; beta-mannoside mannohydrolase; exo-beta-D-mannanase; beta-D-mannoside mannohydrolase
Nomenclature:	CAZy [GH2, glycoside hydrolase family 2, member of clan GH-A], bmnA**,** BF1810
Source organism:	*Bacteroides fragilis* NCTC 9343
Enzyme Commission No.:	3.2.1.25
Activity:	48.05 U/mL (25°C; pH 6.0; 1.11 mM PNPM)
Specific activity:	5.32 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:	~ 6.0
Temperature optimum:	-
[Protein]:	9.03 mg/mL
Sequence length:	837 amino acids (view sequence)
Accession No.:	Q5LEE2, YP_211446.1, BFRA272559:BF1810-MONOMER
Molecular weight:	100520.1 Da (theoretical)
	~ 100000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	Catalyses the hydrolysis of terminal, non-reducing β-D-mannose residues in β-D-mannosides
Potential application(s):	Biomass conversion, carbohydrate research
Comments:	Strongly inhibited by Tris/HCl buffer (also inhibited to a lesser extent by HEPES buffer)

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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-mannopyranoside (1.11 mM) in 55.6 mM sodium phosphate buffer, pH 6.0, at 25°C, and using an extinction coefficient of 18000 M^{-1} cm^{-1} at 410nm

Primary sequence:

NQDTSDVLMLNDDWSFSQVGTEKWLPATVPGTVHQDLIHHKLLPDPFYGTNEKKIQWVEDEDWEYKTCFVVTEEQ
LKRDAAQLFFEGLDTYADVYLNGSLVLKSDNMFVGYAVPVKQVLRKGENLLHVYFHSPIKQTLPQWSSNGFNYPA
DNDHHEKRLSVFTRKAPYSYGWDWGIRMVTSGIWRPVTLRFYDVATIADYHVKQLSLTDQVAKLSNELEINSISE
KEKSAEVLISYSLQGGKEVTVKKNVTLKPGLNKIHIPLDIQNPVRWMPNGWGEPHLYDFSAQVICDGKTIASRQH
RIGLRTIRVVNEKDKEGESFYFEVNGIPMFAKGANYIPDDALLPCITTERYRTLFRDMKEANMNMVRIWGGGTYE
DDRFYDLADENGILVWQDFMFACTAYPSDPTFLKRVEEEAEYNIKRLRNHASLAMWCGNNEILEGLKYWGWQKNY
TPEVYENMFRGYDKLFRGLLPAKVQELDEGRFYKHSSPYFANWGRPESWGIGDSHNWGVWYGKKTFESLDTDLPR
FMSEFGFQSFPEMKTIATFAAPEDYQIESEVMNGHQKSSIGNDLIRTYMERDYIVPEKFEDFVYIGLVLQGHGMR
HGMEAHRRNRPYCMGTLYWQLNDSWPVVSWSSIDYYGNWKALHYQAKRAFAPLLVNAIQEGDSLNIYLISDMLEK
QSQLTLEMKVIDFNGKTLDKEVIKAVEVPMNTSSCIVRKPLDTWVNPEQRKSSFLLLSLKDKSGRKVAEEVYFFD
KTKNLELPQTAISMKVKQLDGKCELTLSSPKLAKDVFVQIPVQGARFTDNFFDLLPGENKKITITSPEIKKGESL
NITVKHVRDTYN

Literature:

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