

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0025
LOT:	2012-0025 (09121)
Activity:	β -Glucosidase
Synonyms:	Gentiobiase; cellobiase; emulsin; elaterase; aryl- β -glucosidase; β -D-glucosidase; β -glucoside glucohydrolase; arbutinase; amygdalinase; <i>p</i> -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; <i>p</i> -nitrophenyl beta-glucosidase; beta-1,6-glucosidase; beta-D-glucoside glucohydrolase
Nomenclature:	CAZy [GH1, glycoside hydrolase family 1 , member of clan GH-A]
Source organism:	<i>Clostridium thermocellum</i> DSM 1237
Enzyme Commission No.:	3.2.1.21
Activity:	20 U/mL
Specific activity:	33 U/mg
Purity:	> 95 % as judged by SDS-PAGE
Form and storage:	Supplied in 35 mM HEPES buffer, pH 7.8, containing 750 mM NaCl, 5 mM imidazole, 3.5 mM CaCl ₂ , 0.02 % (w/v) sodium azide and 25 % (v/v) glycerol, store at -20°C (shipped at room temperature)
pH optimum:	6 (stable from 5.5 - 7)
Temperature optimum:	60°C (stable up to 65°C)
[Protein]:	0.6 mg/mL
Sequence length:	448 amino acids (view sequence)
Accession No.:	CAA42814
Molecular weight:	52547.4 Da (theoretical) ~ 52700 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

Comments:	Wide specificity for β -D-glucosides (may also hydrolyse β -D-galactosides, α -L-arabinosides, β -D-xylosides, and/or β -D-fucosides)
Usage:	Pulse spin vial to remove glycerol storage buffer from lid before opening
Assay:	One unit is defined as the amount of enzyme required to release 1 μ mol of <i>p</i> -nitrophenol per minute from <i>p</i> -nitrophenyl- β -D-glucopyranoside (1 mM in the assay) in 50 mM phosphate buffer, pH 6.0, at 60°C

Primary sequence:

MSKITFPKDFIWGSATAAYQIEGAYNEDGKGESIWDRFSHTPGNIADGHTGDVACDHYHRYEEDIKIMKEIGIKS
YRFSISWPRIFFPEGTGKLNQKGLDFYKRLTNLLLENGIMPAITLYHWDLPQKLQDKGGWKNRDTTDYFTEYSEVI
FKNLGDIVPIWFTHNEPGVVSLLGHFLGIHAPGIKDLRTSLEVSHNLLLSHGKAVKLFREMNIDAQIGIALNLSY
HYPASEKAEDIEAAELSFSLAGRWYLDPVKGRYPENALKLYKKKGIELSFPEDDLKLLISQPIDFIAFNYSSEF
IKYDPSSESGFSPANSILEKFEKTDMGWIIYPEGLYDLLMLLDRDYGKPNIVISENGAAFKDEIGSNGKIEDTKR
IQYLDYLTQAHRAIQDGVNPKAYYLWSSLDNFEWAYGYNKRFGIVHVNFDTLERKIKDSGYWYKEVIKNNGF

- Literature:** 1. [Grabnitz et al. \(1991\) Eur. J. Biochem. 200, 301-309](#)