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Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0063
LOT:	2009-0063
Activity:	α-Galactosidase
Synonyms:	Melibiase; α-D-galactosidase; α-galactosidase A; α-galactoside galactohydrolase; α-D-galactoside galactohydrolase; alpha-galactosidase; alpha-D-galactosidase; alpha-galactosidase A; alpha-galactoside galactohydrolase; alpha-D-galactoside galactohydrolase
Nomenclature:	CAZy [GH27, glycoside hydrolase family 27, member of clan GH-D], Gal27A, gal27A, Ccel_1237
Source organism:	*Clostridium cellulolyticum* H10
Enzyme Commission No.:	3.2.1.22
Activity:	804.1 U/mL
Specific activity:	264.2 U/mg
	(40°C; pH 6.0; 1 mM *p*NP-α-D-galactopyranoside)
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]:	3.04 mg/mL
Sequence length:	577 amino acids (view sequence)
Accession No.:	Q0PRN2, DQ778333, ACL75593.1, ABG76969.1
Molecular weight:	64179.5 Da (theoretical)
	~ 65000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	Hydrolysis of terminal, non-reducing α-D-galactose residues in α-D-galactosides, including galactose oligosaccharides and galactomannans
Potential application(s):	Biomass conversion, carbohydrate research
Comments:	No detectable activity against *p*NP-β-D-glucopyranoside or *p*NP-β-D-xylopyranoside. This enzyme exhibits strong inhibition by Tris/HCl 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-α-D-galactopyranoside (1 mM) in 50 mM sodium phosphate buffer, pH 6.0, at 40°C, and using an extinction coefficient of 18000 M^{-1} cm^{-1}

Primary sequence:

WDNGLAKTPPMGWNSWNIFHGDINETKIKQIADTMVSSGMKEAGYVYLNLDDNWMANPARDSNGNLRADPTRFPS
GIRALADYVHAKGLKLGIYGCRGTMTCMNIPQSGSKGYEDKDAKTFASWGIDYLKYDNCNIPNGSDMKTDYQKMQ
TALANCGRPIVFSICAWGYQSWMPATGNLWRTTGDIADKWDNGNEWFKGIINAIDGNAQYTSSAAPGAWNDPDML
EIGNGGCTTEEYRTQMSMWSMMASPLIAGNDIRTMSQTTKDILLNKEVIAIDQDPAGVQGKRVKSANGLEIWVKP
LGTNGTTKAVALLNRNSATSNITVNWSDIGVSGSVTVRDLWAKSDKGSFTGSYTASVPSHGTVLIKISTEPPAPV
DATKQIEAESYSNQSGIQTETCSEGGEDVGFIENGDYTVYSNVDFGDGVGGFQARVASATSGGNIEIRLDSPAGT
LIGTCPVAGTGDWQTYTDVKCTVSGATGKHDVYLVFKGDSGYLFNLNWFTFTPGSVNTGTLGDLNSDGQVDAIDL
QLLKKYILGLGAIENTKLADLDANGDINAIDFSLLKQFLLGIRTSFPGQGAA

Literature:
1. Blouzard *et al.* (2007) *J. Bacteriol.* **189**, 2300-2309