

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0001
LOT:	2008-0001
Activity:	α -Galactosidase
Synonyms:	Melibiose; 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], Aga27A, CmAga27A
Source organism:	<i>Cellvibrio mixtus</i> ATCC 12120
Enzyme Commission No.:	3.2.1.22
Activity:	180 U/vial
Specific activity:	150 U/mg
	} (37°C; pH 8.5; 1 mM <i>p</i> -nitrophenyl- α -D-galactopyranoside)
Purity:	>95% as judged by SDS-PAGE
Form and storage:	Lyophilised powder, store at -20°C (shipped at room temperature)
pH optimum:	8.5 (stable from 8.0 – 9.5)
Temperature optimum:	37°C (stable up to 40°C)
[Protein]:	1.2 mg/mL
Sequence length:	382 amino acids (view sequence)
Accession No.:	AAS19696
Molecular weight:	44582.3 Da (theoretical)
	~ 44800 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:	This enzyme is a truncated form lacking the C-terminal and N-terminal dockerin domains

Usage: Dissolve to 1 mg/mL in 25 mM Tris-HCl, pH 8.5, 20 mM NaCl and aliquot for storage at -20°C. The enzyme should be stable for 6 months when stored in this manner. α -Galactosidase 27A (GH27), in the lyophilized form, will remain stable up to 3 years if stored as specified

Assay: One unit is defined as the amount of enzyme required to release 1 μ mol of *p*-nitrophenol per minute from *p*-nitrophenyl- α -D-galactopyranoside (1 mM in the assay) in 25 mM Tris-HCl buffer, pH 8.5, at 37°C

Primary sequence:

MQKFEHLAKTPQLGWNSWNTFACDVNEKMIREMADAMVASGMKDAGYEYINIDDCWHGERDKQGFIQVDKKSFPS
GMKALADYVHSKGLKLGIIYSDAGNTTCAGRPGSRGHEYQDAVTYASWGIYVYKDWCDTKDINPKAAYATMRDAI
HKAGRPMFLFSICEWGDNKPWEWATDVGHSWRTTGDIYPCWNCENHGSWSSWGVLPILDKQAGLRKYAGPGHWND
MDMMEVGNMNEDEDEHRAHFSWAMMASPLIAGNDRKMSSEATKKILTNKDMLAINQDKLGIQAMKWI DEGDIEIY
VKPLEKGDYAVLFLNRADTTVNYSLDWGFHYMKDDISKHEIFFDKKKFNWRDIWNGGKGSTAEKLNLTMAAHSVA
VLRRLTPQ

Literature: 1. Centeno *et al.* (2006) *FEMS Microbiol. Lett.* **261**, 123-132