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Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0057
LOT:	2011-0057-1
Activity:	α-L-Arabinofuranosidase
Synonyms:	α-*N*-Arabinofuranosidase; arabinosidase; α-arabinosidase; α-L-arabinosidase; α-arabinofuranosidase;polysaccharide α-L-arabinofuranosidase; α-L-arabinofuranoside hydrolase; L-arabinosidase; α-L-arabinanase; α-L-arabinofuranoside arabinofuranohydrolase; alpha-*N*-arabinofuranosidase; alpha-arabinosidase; alpha-L-arabinosidase; alpha-arabinofuranosidase;polysaccharide alpha-L-arabinofuranosidase; alpha-L-arabinofuranoside hydrolase; alpha-L-arabinanase; alpha-L-arabinofuranoside arabinofuranohydrolase
Nomenclature:	CAZy [GH51, glycoside hydrolase family 51, member of clan GH-A], arabinofuranosidase 51A, *Cj*Abf51A, Abf51A, *abf51A*
Source organism:	*Cellvibrio japonicus* NCIMB 10462
Enzyme Commission No.:	3.2.1.55
Activity:	6.47 U/mL (37°C; pH 5.5; 3.29 mg/mL sugar beet arabinan)
Specific activity:	2.45 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:	5.5
Temperature optimum:	< 55 °C
[Protein]:	2.65 mg/mL
Sequence length:	497 amino acids (view sequence)
Accession No.:	Q93LE0, AY043167
Molecular weight:	57640.0 Da (theoretical)
	~ 55000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	Hydrolysis of terminal non-reducing α-L-arabinofuranoside residues in α-L-arabinosides (acts on α-L-arabinofuranosides, α-L-arabinans containing (1,2)-, (1,3)- and/or (1,5)-linkages. This enzyme displays a marked preference (~ 300-fold) for the hydrolysis of (1,2)- and (1,3)- linkages over (1,5)-glycosidic bonds

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Potential application(s): Biomass conversion, carbohydrate research

Comments: -

Usage: Agitate vial sufficiently to fully homogenise enzyme precipitate before use. When performing DNSA assays, it is necessary to remove the majority of the ammonium sulphate stabilisation solution by centrifugation to avoid interference. Re-suspend the resultant enzyme pellet in 10 mg/mL BSA prior to assay (under these conditions a hazy suspension may form. Homogenise this suspension immediately prior to removing an aliquot for assay)

Assay: One unit is defined as the amount of enzyme required to release 1 µmol of D-glucose equivalents per minute from sugar beet arabinan (3.29 mg/mL; Megazyme) in 32.89 mM sodium acetate buffer, pH 5.5, at 37^{o}C, and using the DNSA assay method of Miller (1959; *Anal. Chem.* **31**, 426-428) to follow reducing sugar liberated at 575 nm

Primary sequence:

MNTHITIDTTKSGPVINKNIYGQFAEHLGRGIYEGLWVGPESGIPNTRGWRNDVVGALKDINVPLVRWPGGCFAD
EYHWRDGIGPRDQRPVKVNTNWGGVEEDNAVGTHEFFDLVEILGAEAYVNGNLGTGTPQEMAEWLEYMTAEGKST
LAELRRKNGRDKPFQVQYFAIGNEAWGCGGNMTPEYYTNLYNHYATFLKAPAHNAPKLIASGGHTEDTSWAAHLT
ANVKPNWSLKMDAVSFHYYTLPTGKWDKKGAAIGFPEAEWMSTLVNTLRMDDFIVNNKKVMDKNDPEKKVGFYVD
EWGTWYDVEAGENPGFLYQQNSLRDAVVAALNFNIFHKHADRVHMTNIAQMVNVLQAMILTDKEKMILTPTYYAY
KMYVPFQDATSLPVSLKKVSQYRLGKSSVPAISASAARGKDGKVYLALVNANPNQAETVALALPGVTASGVSGQL
LTATAMDAHNTFANPNAIKPVSYSAKAVNGKLSLELPAKSVVVVAVE

Literature:

1. Beylot *et al.* (2001) *Biochem. J.* **358**, 607-614