



## $\alpha$ -L-ARABINOFURANOSIDASE B2I from *Bacteroides ovatus* (Lot 150801a)

### Recombinant

#### E-ABFBO2I

10/15

(EC 3.2.1.55) non-reducing end  $\alpha$ -L-arabinofuranosidase;  $\alpha$ -L-arabinofuranoside non-reducing end  $\alpha$ -L-arabinofuranosidase

CAZy: GH Family 43

CAS: 9067-74-7

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 65,000)
- One major band on isoelectric focusing (pI ~ 6.5)

#### 2. SPECIFIC ACTIVITY:

**16 U/mg protein (on wheat arabinoxylan) at pH 7.5 and 40°C**

**One Unit** of  $\alpha$ -L-arabinofuranosidase activity is defined as the amount of enzyme required to release one  $\mu$ mole of arabinose per minute from wheat arabinoxylan (10 mg/mL) in sodium phosphate buffer (100 mM), pH 7.5 at 40°C.

#### 3. SPECIFICITY:

Hydrolysis of terminal, non-reducing  $\alpha$ -L-arabinofuranose from singly substituted xylose residues in arabinoxylan ( $\alpha$ -1,2 and  $\alpha$ -1,3). Does not hydrolyse  $\alpha$ -L-arabinofuranose from doubly substituted xylose residues in arabinoxylan.

#### 4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Wheat Arabinoxylan	100
Debranched Arabinan	< 0.0001
Sugar Beet Arabinan	< 0.0001
pNP- $\alpha$ -L-arabinofuranoside	< 0.0001
Arabinobiose	< 0.01
A <sup>3</sup> X	~ 16.3
A <sup>2</sup> XX	~ 178
XA <sup>3</sup> XX	~ 178
XA <sup>2</sup> XX and XA <sup>3</sup> XX mixture	~ 178
A <sup>2,3</sup> XX	< 0.0001

Action on pNP-substrates and polysaccharides or oligosaccharides was determined at a final substrate concentration of 2.5 mM and 10 mg/mL, respectively, in sodium phosphate buffer (100 mM), pH 7.5 at 40°C.

#### 5. PHYSICO-CHEMICAL PROPERTIES:

Recommended conditions of use are at pH 6.0-7.5 and up to 40°C

pH Optima: 7.5

pH Stability: 5.0-9.0 (> 75% control activity after 24 h at 4°C)

Temperature Optima: 50°C (10 min reaction)

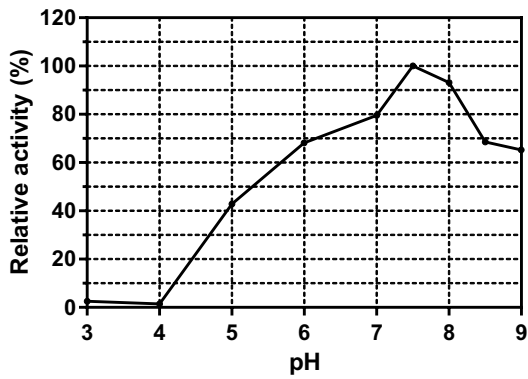
Temperature Stability: up to 40°C (> 75% control activity after 15 min incubation at temperature)

#### 6. STORAGE CONDITIONS:

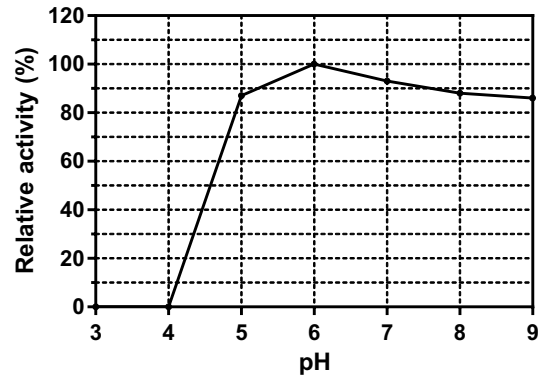
The enzyme is supplied as a solution containing 50% glycerol and 0.02% (w/v) sodium azide and should be stored at -20°C. For assay, this enzyme should be diluted in sodium phosphate buffer (100 mM), pH 7.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

## 7. EXPERIMENTAL DATA:

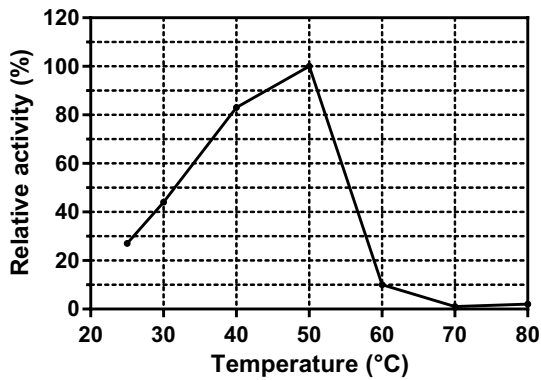
### pH Optima



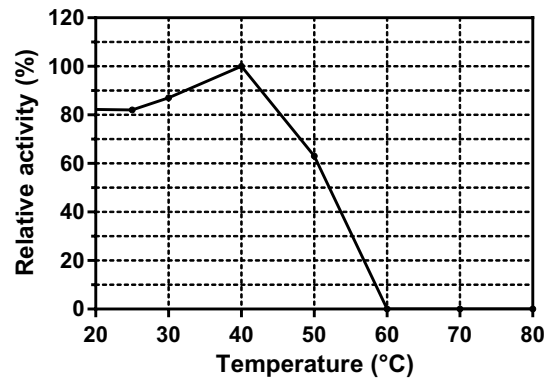
### pH Stability



### Thermal Optima



### Thermal Stability



## 8. REFERENCES:

McCleary, B.V., McKie, V.A., Draga, A., Rooney, E., Mangan, D. & Larkin, J. (2015). Hydrolysis of wheat flour arabinoxylan, acid-debranched wheat flour arabinoxylan and arabino-xylo-oligosaccharides by  $\beta$ -xylanase,  $\alpha$ -L-arabinofuranosidase and  $\beta$ -xylosidase. *Carb. Res.*, 407, 79-96.

Rogowski, A., Briggs, J. A., Mortimer, J. C., Tryfona, T., Terrapon, N., Lowe, E. C., Basle, A., Morland, C., Day, A. M., Zheng, H., Rogers, T. E., Thompson, P., Hawkins, A. R., Yadav, M. P., Henrissat, B., Martens, E. C., Dupree, P., Gilbert, H. J. & Bolam, D. N. (2015). Glycan complexity dictates microbial resource allocation in the large intestine. *Nat. Commun.*, 6, 7481.