



α -L-ARABINOFURANOSIDASE B25 from *Bacteroides ovatus* (Lot 150802a)

Recombinant

E-ABFBO25

10/15

(EC 3.2.1.55) non-reducing end α -L-arabinofuranosidase; α -L-arabinofuranoside non-reducing end α -L-arabinofuranosidase

CAZy: GH Family 43

CAS: 9067-74-7

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 69,000)
- One major band on isoelectric focusing (pI ~ 6.0)

2. SPECIFIC ACTIVITY:

25 U/mg protein (on wheat arabinoxylan) at pH 6.5 and 40°C

One Unit of α -L-arabinofuranosidase activity is defined as the amount of enzyme required to release one μ mole of arabinose per minute from wheat arabinoxylan (10 mg/mL) in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

3. SPECIFICITY:

Hydrolysis of terminal, non-reducing α -L-arabinofuranose from singly substituted xylose residues in arabinoxylan (α -1,2 and α -1,3). Does not hydrolyse α -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	~ 0.06
pNP- α -L-arabinofuranoside	~ 1.4
Arabinobiose	< 0.01
A ³ X	~ 8.3
A ² XX	~ 108
XA ³ XX	~ 44
XA ² XX and XA ³ XX mixture	~ 120
A ^{2,3} XX	< 0.001

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 6.5 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:

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

pH Optima: 6.5

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

Temperature Optima: 40°C (10 min reaction)

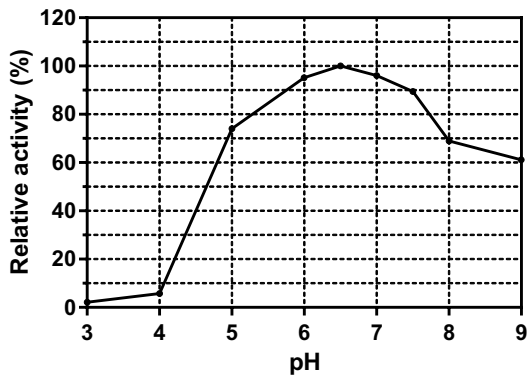
Temperature Stability: up to 50°C (> 75% control activity after 15 min incubation at temperature)

6. STORAGE CONDITIONS:

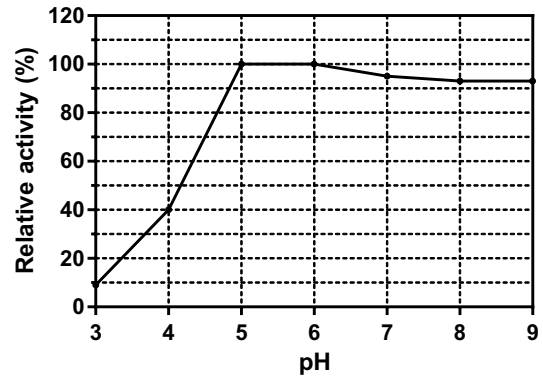
The enzyme is supplied as a solution containing 50% glycerol and 0.02% (w/v) sodium azide and should be stored at -20°C. For assay, this enzyme should be diluted in sodium phosphate buffer (100 mM), pH 6.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA:

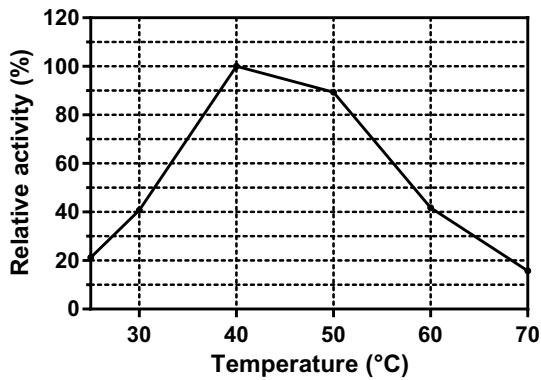
pH Optima



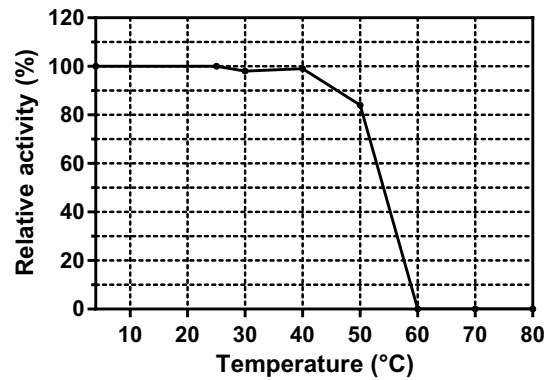
pH Stability



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 β -xylanase, α -L-arabinofuranosidase and β -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.