



α -L-ARABINOFURANOSIDASE from *Ustilago maydis* (Lot 131001a)

Recombinant

E-ABFUM

01/15

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

CAZy: GH Family 62

CAS: 9067-74-7

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 35,000)
- One major band on isoelectric focusing (pI ~ 8.4)

2. SPECIFIC ACTIVITY:

25 U/mg protein (on wheat arabinoxylan) at pH 5.0 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 acetate buffer (100 mM), pH 5.0 at 40°C.

3. SPECIFICITY:

Hydrolysis of terminal, non-reducing α -L-arabinofuranose from singly substituted xylose residues in arabinoxylan (α -1,2 > 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	< 0.02
p-NP- α -L-arabinofuranoside	< 0.05
Arabinobiose	< 0.0001
A ³ X	~ 2
A ² XX	~ 9
XA ² XX	~ 21
XA ² XX and XA ³ XX mixture	~ 88
A ^{2,3} XX	< 0.0001

Action on p-NP-substrates and polysaccharides or oligosaccharides was determined at a final substrate concentration of 2.5 mM and 10 mg/mL, respectively, in sodium acetate buffer (100 mM), pH 5.0 at 40°C.

5. PHYSICO-CHEMICAL PROPERTIES:

Recommended conditions of use are at pH 4. - 6.0 and up to 50°C

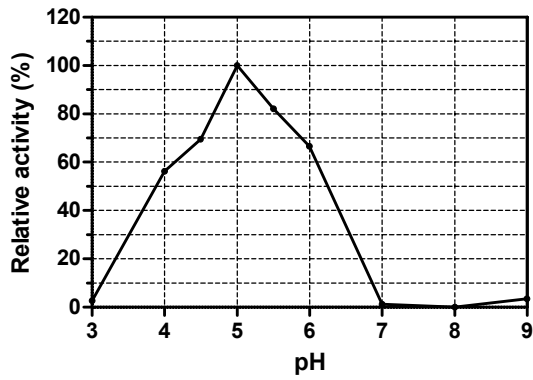
pH Optima:	5.0
pH Stability:	3.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
Temperature Optima:	40°C (10 min. reaction)
Temperature Stability:	up to 50°C

6. STORAGE CONDITIONS:

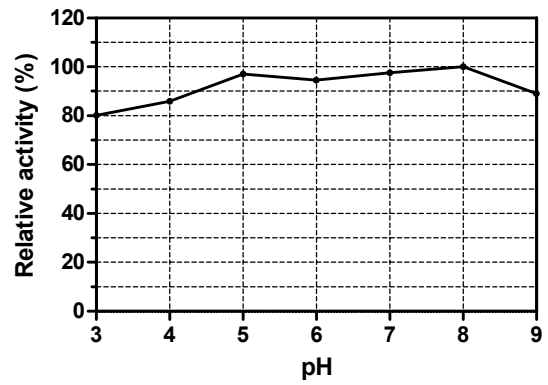
The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 5.0 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA:

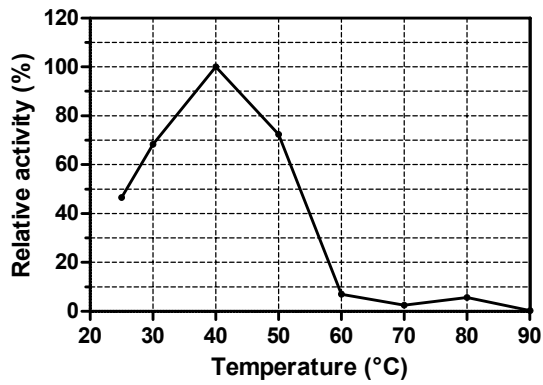
pH Optima



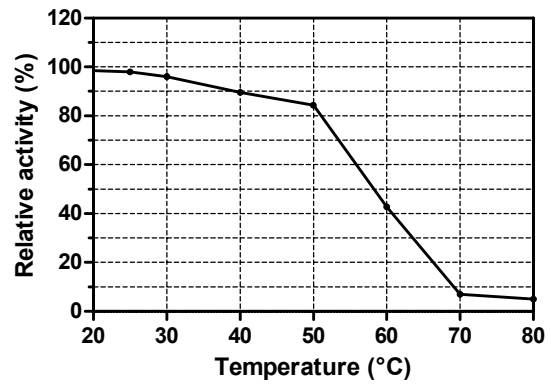
pH Stability



Thermal Optima



Thermal Stability



8. REFERENCES:

McCleary, B.V., McKie, V.A., Draga, A., Rooney, E., Mangan, D. & Larkin, J. (2014). Enzymic studies on wheat flour arabinoxylan. *Not in Press*.

Siguier, B., Haon, M., Nahoum, V., Marcellin, M., Burlet-Schiltz, O., Coutinho, P. M., Henrissat, B., Mourey, L., O'Donohue, M. J., Berrin, J. G., Tranier, S. & Dumon, C. (2014). First structural insights into α -L-arabinofuranosidases from the two GH62 glycoside hydrolase subfamilies. *Biol. Chem.* **289**, 5261-5273.