# α-L-ARABINOFURANOSIDASE from *Ustilago maydis* (Lot 150203a)

***Recombinant***

**E-ABFUM** **10/18**

(EC 3.2.1.55) non-reducing end alpha-L-arabinofuranosidase; alpha-L-arabinofuranoside non-reducing end alpha-L-arabinofuranosidase
CAZy Family: GH62
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:

**9 U/mg protein (on wheat arabinoxylan) at pH 5.0 and 40°C**

**One Unit** of α-L-arabinfuranosidase activity is defined as the amount of enzyme required to release one µmole 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 |
| $A^3X$ | ~ 2 |
| $A^2XX$ | ~ 9 |
| $XA^2XX$ | ~ 21 |
| $XA^2XX$ and $XA^3XX$ 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. PHYSICOCHEMICAL PROPERTIES:

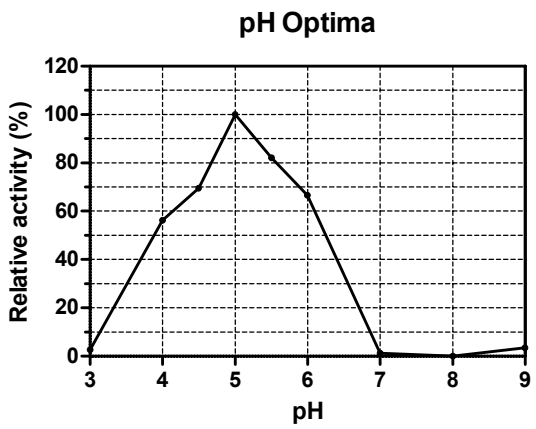
Recommended conditions of use are at pH 4.0 - 6.0 and up to 50°C

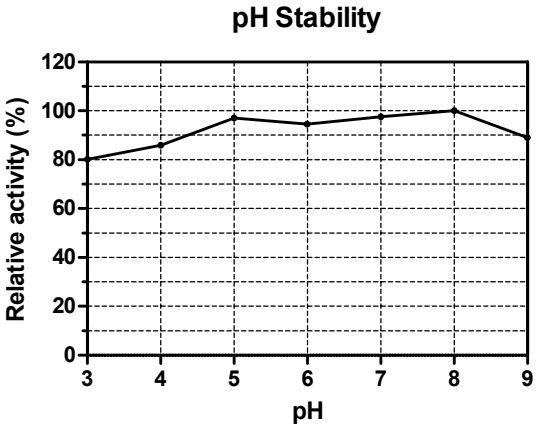
| | |
|---|---|
| pH Optima: | 5.0 |
| pH Stability: | 3.0 - 9.0 (> 75% control activity after 24 hours at 4°C) |
| Temperature Optima: | 40°C (10 min. reaction) |
| Temperature Stability: | up to 50°C |

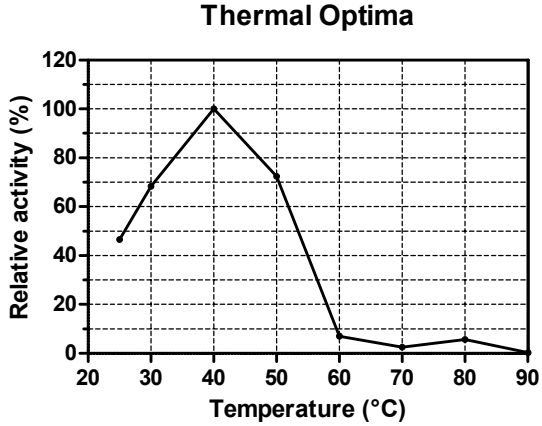
### 6. STORAGE CONDITIONS:

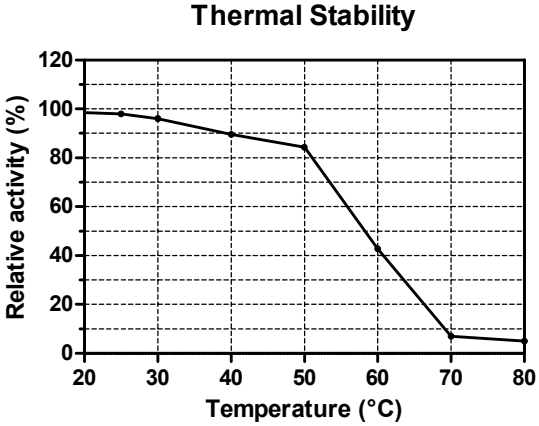
The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 5.0 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

## 7. EXPERIMENTAL DATA:




## 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.