



## $\alpha$ -L-ARABINOFURANOSIDASE from *Bifidobacterium* sp. (Lot 31001b)

### Recombinant

E-AFAM2

10/11

EC 3.2.1.55

CAZy: GH Family 43

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY

- single band on SDS-gel electrophoresis (MW ~ 59,404)
- broad diffuse band on Isoelectric focusing (pI ~ 4.6)

#### 2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES

**28 U/mg protein (on wheat arabinoxylan) at pH 6.0 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 6.0.

#### 3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES

SUBSTRATE	%
Xylanase-treated Wheat Arabinoxylan (7 mg/mL; pH 6; 40°C)	100
Wheat Arabinoxylan (7 mg/mL; pH 6; 40°C)	31.3
Sugar Beet Arabinan (7 mg/mL; pH 4; 40°C)	4.4
p-Nitrophenyl- $\alpha$ -arabinofuranoside (2.5 mM, pH 4, 40°C)	0.11

#### 4. OTHER ACTIVITIES (as a percentage of $\alpha$ -L-arabinofuranosidase activity)

ENZYME ACTIVITY	%
endo- $\alpha$ -L-Arabinanase	< 0.0001
endo- $\beta$ -D-Xylanase	< 0.0001

Protein was determined using the Folin/Lowry procedure with BSA as standard.

#### 5. STABILITY

Stable at room temperature for > 6 hr at pH 6.0. Stable for 2 hours at pH 6.0 and temperatures up to 50°C. The enzyme is supplied as an ammonium sulphate suspension in 0.02 % (w/v) sodium azide and should be stored at 4°C. Stable for > 2 years at 4°C. On dissolution in buffer, store at -20°C. Stable to repeated freeze-thaw cycles.

#### 6. REFERENCES

- Van Laere, K.M.J., Beldman, G. & Voragen A.G.J. (1997) A new arabinofuranohydrolase from *Bifidobacterium adolescentis* able to remove arabinofuranosyl residues from double substituted xylose units in arabinoxylan. *Appl Microbiol. Biotech.* **47**: 231-235.
- Van den Broek, L.A.M., Lloyd, R.M., Beldman, G., Verdoes, J.C., McCleary, B.V. & Voragen, A.G.J. (2005) Cloning and characterization of arabinoxylan arabinohydrolase D-3 (AXH-D3) from *Bifidobacterium adolescentis* DSM20083. *Appl Microbiol. Biotech.* **67**: 641-647