



ACETYLXYLAN ESTERASE from *Orpinomyces sp.* (Lot 100201c)

Recombinant

E-AXEAO-3KU

(EC 3.1.1.72) Acetylxyylan esterase

CAZy Family: CE6

03/19

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 34,000)
- Single major band on isoelectric focusing (pI ~ 5.6)

2. SPECIFIC ACTIVITY:

> 36 U/mg protein (on 4-nitrophenyl acetate) at pH 6.7 and 40°C.

***One Unit** of acetylxyylan esterase activity is defined as the amount of enzyme required to release one μ mole of *p*-nitrophenol from 4-nitrophenyl acetate per minute at 40°C measured at 405 nm under the following assay conditions:

Sodium phosphate buffer, pH 6.7	20 mM
4-Nitrophenyl acetate (4-NPA)	0.5 mM

* Extinction coefficient (ϵ) of *p*-nitrophenol = $9100 M^{-1} \times cm^{-1}$

3. PHYSICOCHEMICAL PROPERTIES:

pH Optima:	7.0**
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 (> 90% control activity after 15 min.)

** The rate of non-enzymatic de-esterification of 4-nitrophenyl acetate increases with increasing pH

4. 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 phosphate buffer (100 mM), pH 6.7 containing 1.0 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

5. REFERENCES:

Blum, D.L., Li, X.L., Chen, H. & Ljungdahl, L.G. (1999) Characterization of an acetyl xyylan esterase from the anaerobic fungus *Orpinomyces sp.* strain PC-2. *Appl. Environ. Microbiol.* **65(9)**:3990-5.