



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

Recombinant

E-AXEAO & E-AXEAOB
(EC 3.1.1.72)
CAZY: CE Family 6

06/10

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

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

***One Unit** of acetylxy lan 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 xy lan esterase from the anaerobic fungus *Orpinomyces sp.* strain PC-2.

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