

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0035	
LOT:	2008-0035	
Activity:	Xylan Acetyl Esterase	
Synonyms:	Acetylxylan esterase	
Nomenclature:	CE4 belongs to CE family 4	
Source organism:	<i>Clostridium thermocellum</i> F1 / YS	
Enzyme Commission No.:	3.1.1.72	
Activity:	10.5 U/mL	} (50°C; pH 6.5; acetylated birchwood xylan)
Specific activity:	7 U/mg	
Purity:	>80% as judged by SDS-PAGE	
Form and storage:	Supplied in 3.2 M ammonium sulphate, store at 4°C (shipped at room temperature)	
pH optimum:	6.5 (stable from 5 – 7.5)	
Temperature optimum:	50°C (stable up to 60°C)	
[Protein]:	1.5 mg/mL	
Sequence length:	432 amino acids (view sequence)	
Accession No.	BAA33543	
Molecular weight:	47691.4 Da	(theoretical)
	~ 47900 Da	(observed by SDS-PAGE)
	-	(observed by mass spectrometry)
Biological function:	Deacetylation of xylans and xylo-oligosaccharides. Catalyses the hydrolysis of acetyl groups from polymeric xylan, acetylated xylose, acetylated glucose, α -naphthyl acetate, <i>p</i> -nitrophenyl acetate, but not from triacetyllycerol. Does not act on acetylated mannan or pectin	
Potential application(s):	Biomass conversion , carbohydrate research	
Comments:	PDB: 2c71 , 2c79	
Usage:	Agitate bottle sufficiently to fully homogenise enzyme precipitate before use	
Assay:	One unit is defined as the amount of enzyme required to release 1 μ mol of acetate per minute from birchwood xylan in 50 mM	

phosphate buffer, pH 6.5, at 50°C, containing 2 mM CaCl₂ and 1 mg/ml of BSA

Primary sequence:

MKIESEEEYNSLKSSTIQTIGTSDGGSGIGYIESGDYLVFNKINFGNGANSFKARVASGADTPTNIQLR
LGSPGTGLIGTLTVASTGGWNNYEEKSCSITNTTGQHDLYLVFSGPVNIDYFIFDSNGVNPTPTSQPQ
QGQVLGDLNGDKQVNSTDYALKRHLNITRLSGTALANADLNGDGKVDSTDLMLHRYLLGIISSFP
RSNPQPSSNPQPSSNPQPTINPNAKLVALTFDDGPDNVLTVARVLDKLDKYNVKATFMVVGQRVNDSTA
AIIRRMVNSGHEIGNHSWSYSGMANMSPDQIRKSIADTNAVIQKYAGTTPKFFRAPNLETSPTLFNNV
DLVFGGLTANDWIPSTTAEQRAGAVINGVRDGTIIILLHDVQPEPHPTPEALDIIIPTLKSRGYEFVT
LTELFTLKGVPIDPSVKRMYSVP

- Literature:**
1. [Fernandes *et al.* \(1999\) *Biochem. J.* **342**, 105-111](#)
 2. [Taylor *et al.* \(2006\) *J. Biol. Chem.* **281**, 10968-10975](#)