

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0030	add this product to cart
LOT:	2010-0030-4 (batch 10101)	view other feruloyl esterases
Activity:	Feruloyl esterase	
Synonyms:	Ferulic acid esterase; hydroxycinnamoyl esterase; FAE-III; cinnamoyl ester hydrolase; FAEA; cinnAE; FAE-I; FAE-II; 4-hydroxy-3-methoxycinnamoyl-sugar hydrolase	
Nomenclature:	CAZy [CE1, carbohydrate esterase family 1] , N-terminal CE1 catalytic module of XynZ	
Source organism:	<i>Clostridium thermocellum</i>	
Enzyme Commission No.:	3.1.1.73	
Activity:	0.26 U/mL	} (37°C; pH 6.0; 32 µM methyl ferulate; literature value for FAXX as substrate is 12.5 U/mg, at 60°C, pH 6.0)
Specific activity:	0.13 U/mg	
Purity:	>95% 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 (stable from 4 - 7)	
Temperature optimum:	60°C (stable up to 65°C)	
[Protein]:	2.00 mg/mL	
Sequence length:	261 amino acids (view sequence)	
Accession No.:	P10478	
Molecular weight:	29446.1 Da	(theoretical)
	~ 29600 Da	(observed by SDS-PAGE)
	-	(observed by mass spectrometry)
Biological function:	Hydrolyses FAXX, FAX3 and PAX3. Feruloyl-polysaccharide + H ₂ O = ferulate + polysaccharide	
Potential application(s):	Biomass conversion , carbohydrate research	
Comments:	This esterase is the N-terminal CE1 catalytic module of XynZ from <i>Clostridium thermocellum</i> and catalyses the hydrolysis of the 4-hydroxy-3-methoxycinnamoyl (feruloyl) group from an esterified sugar, which is usually arabinose in "natural" substrates. Methyl ferulate is a poorer substrate. All microbial ferulate esterases are	

secreted into the culture medium. They are sometimes called hemicellulase accessory enzymes, since they help xylanases and pectinases to break down plant cell wall hemicellulose

Usage: Agitate vial sufficiently to fully homogenise enzyme precipitate before use

Assay: One unit is defined as the amount of enzyme required to release 1 μmol of ferulic acid per minute from 32 μM methyl ferulate in 50 mM sodium phosphate buffer, pH 6.0, at 37°C, and at 335 nm.

Primary sequence:

MAASLPTMPSPGYDQVRNGVPRGQVVNISYFSTATNSTRPARVYLPPGYSKDKKYSVLYLLHGIGGSENDWFEGG
GRANVIADNLI AEGKIKPLIIVTTPNTNAAGPGIADGYENFTKDLLNSLIPYIESNYSVYTDREHRAIAGLSMGGG
QSFNIGLTNLDKFAYIGPISAAPNTYPNERLFPDGGKAAREKLLKLLFIACGTNDSLIGFGQRVHEYCVANNINHV
YWLIQGGGHDFNVWKPGLWNFLQMADEAGLTRDGNT

Literature: 1. [Blum *et al.* \(2000\) *J. Bacteriol.* **182**, 1346-1351](#)