



## FERULOYL ESTERASE from rumen microorganism (Lot 190401a)

### Recombinant

#### E-FAERU

07/19

(EC 3.1.1.73) 4-hydroxy-3-methoxycinnamoyl-sugar hydrolase

CAZy Family: CE1

CAS: 134712-49-5/224306-54-1/224306-55-2

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 29,000)
- One major band on isoelectric focusing (pI ~ 5.7)

#### 2. SPECIFIC ACTIVITY:

**30 U/mg protein (on ethyl-ferulate) at pH 6.5 and 40°C.**

**One Unit** of feruloyl esterase activity is defined as the amount of enzyme required to release one  $\mu$ mole of ferulic acid per minute from ethyl-ferulate (0.39 mM) in sodium phosphate buffer (100 mM), pH 6.5 and 40°C

#### 3. SPECIFICITY:

Catalyses the hydrolysis of the 4-hydroxy-3-methoxycinnamoyl (feruloyl) group from an esterified sugar, which is usually arabinose in "natural" substrates.

#### 4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Ethyl-ferulate	100
Methyl-ferulate	~47
Methyl- <i>para</i> -coumarate	~12
Methyl-cafeate	~55
Methyl-sinapinate	~5

Action on methyl substrates was determined at a final substrate concentration of 0.032 mM in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

#### 5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 6.0-8.0 and up to 45°C

pH Optima: 7.0

pH Stability: 6.0-9.0 (> 75% control activity after 24 h at 4°C)

Temperature Optima: 40°C (10 min reaction)

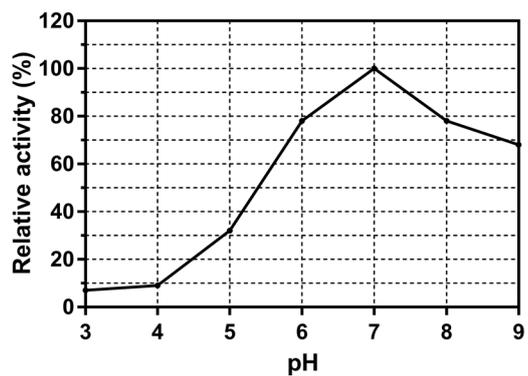
Temperature Stability: up to 45°C (> 75% control activity after 15 min incubation at temperature)

#### 6. STORAGE CONDITIONS:

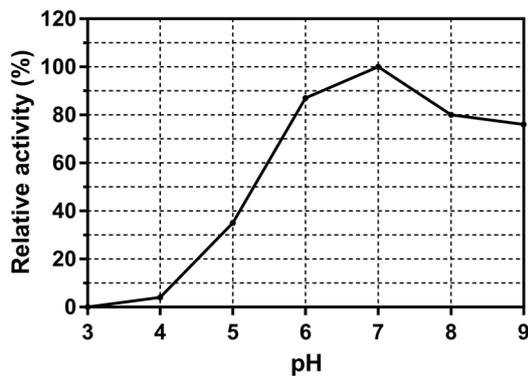
The enzyme is supplied as a suspension in 3.2M ammonium sulphate containing 50% 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium phosphate buffer (100 mM), pH 6.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA:

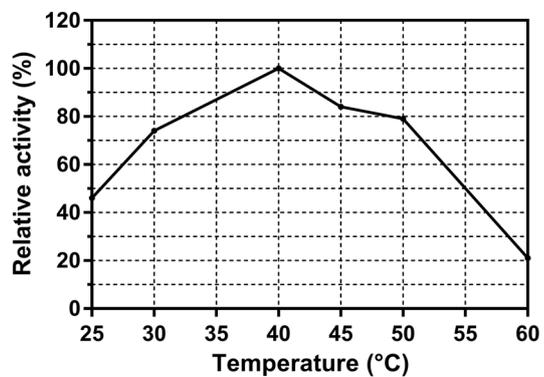
pH Optima



pH Stability



Thermal Optima



Thermal Stability

