



FERULOYL ESTERASE from rumen microorganism (Lot 141003)

Recombinant

E-FAERU

11/14

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

PROPERTIES

1. ELECTROPHORETIC PURITY:

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

2. SPECIFIC ACTIVITY:

42.4 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 μ mole of ferulic acid from ethyl-ferulate per minute at pH 6.5 and 40°C under the following conditions:

Sodium phosphate buffer; pH 6.5	100 mM
Ethyl-ferulate	0.39 mM

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

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

Enzyme activity was determined at final substrate concentration of 0.032 mM in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

4. PHYSICOCHEMICAL PROPERTIES:

pH Optima:	6.5
pH Stability:	6.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
Temperature Optima:	40°C (10 min. reaction)
Temperature Stability:	up to 40°C (> 90% control activity after 15 min.)

5. 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 6.5 containing 1.0 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**