



endo-1,4-β-GALACTANASE from *C. thermocellum* (Lot 121001)

Recombinant

E-GALCT

07/14

(EC 3.2.1.89) *Arabinogalactan 4-beta-D-galactanohydrolase*

CAZy: GH Family 53

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 44,600)
- Single major band on isoelectric focusing (pI ~ 5.9)

2. SPECIFIC ACTIVITY:

15 U/mg protein (on potato galactan) at pH 4.5 and 40°C; ~33 U/mg protein (on potato galactan) at pH 4.5 and 60°C

One Unit of galactanase activity is defined as the amount of enzyme required to release one μmole of galactose reducing-sugar equivalents per minute from potato galactan (10 mg/mL) in sodium acetate buffer (100 mM) pH 4.5.

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Potato Galactan	100
CM-Cellulose 4M	< 0.003
Debranched Arabinan	< 0.03
Polygalacturonic Acid	< 0.004
Wheat Arabinoxylan	< 0.02
p-NP-βD-galactopyranoside	< 0.001
p-NP-α-L-arabinofuranoside	< 0.002

Action on polysaccharide and p-NP-substrates was determined at final substrate concentrations of 5 mg/mL and 5 mM, respectively, in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

4. PHYSICOCHEMICAL PROPERTIES:

- pH Optima: 4.5
 pH Stability: 4.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
 Temperature Optima: 60°C (10 min. reaction)
 Temperature Stability: up to 50°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 acetate buffer (100 mM), pH 4.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**