endo-1,4-β-GALACTANASE from *C. thermocellum* (Lot 140701b)

Recombinant

E-GALCT **02/21**

(EC 3.2.1.89) arabinogalactan *endo*-beta-1,4-galactanase; arabinogalactan 4-beta-D-galactanohydrolase
CAZy Family: GH53
CAS: 58182-40-4

PROPERTIES

1. ELECTROPHORETIC PURITY:
- Single band on SDS-gel electrophoresis (MW ~ 44,600)
- One major band on isoelectric focusing (pI ~ 5.9)

2. SPECIFIC ACTIVITY:
10.5 U/mg protein (on potato galactan) at pH 4.5 and 40°C;
~23 U/mg protein (on potato galactan) at pH 4.5 and 60°C

One Unit of endo-1,4-β-galactanase activity is defined as the amount of enzyme required to release one µmole of galactose per minute from potato galactan (10 mg/mL) in sodium acetate buffer (100 mM), pH 4.5.

3. SPECIFICITY:
endo-hydrolysis of (1,4)-β-D-galactosidic linkages in galactans.

4. 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-β-D-galactopyranoside	< 0.001
p-NP-α-L-arabinofuranoside	< 0.002

Action on *p*NP-substrates and polysaccharides or oligosaccharides was determined at a final substrate concentration of 2.5 mM and 5 mg/mL, respectively, in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:
Recommended conditions of use are at pH 4.5 and up to 50°C

pH Optima:	4.5
pH Stability:	4.0-9.0 (> 75% control activity after 24 h at 4°C)
Temperature Optima:	60°C (10 min reaction)
Temperature Stability:	up to 50°C (> 90% control activity after 15 min incubation at temperature)

6. STORAGE CONDITIONS:
The enzyme is supplied as an ammonium sulphate suspension containing 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.**