



endo-1,3(4)- β -GLUCANASE from *Clostridium thermocellum* (Lot 160201b)

E-LICACT

04/19

Recombinant

Catalytic domain of LicA from *Clostridium thermocellum*

(EC 3.2.1.6) non-specific, endo-1,3(4)- β -glucanase, (endo-1,3- β -glucanase)

CAZy: GH Family 16

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 29,300)
- Single major band on isoelectric focusing (pI ~ 4.9)

2. SPECIFIC ACTIVITY:

186 U/mg protein (on barley β -glucan) at pH 6.5 and 40°C;
~ 395 U/mg protein (on barley β -glucan) at pH 6.5 and 60°C

One Unit of glucanase activity is defined as the amount of enzyme required to release one μ mole of glucose reducing-sugar equivalents per minute from barley β -glucan (5 mg/mL) in sodium phosphate buffer (100 mM) pH 6.5.

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES

Substrate	Activity, %
Barley β -Glucan	100
CM-Curdlan	~ 2.3
CM-Cellulose 4M	< 0.001
p-NP- β -D-glucoside	< 0.001

Action on polysaccharide and p-NP-substrates was determined at a final substrate concentration of 5 mg/mL and 5 mM, respectively, in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

4. PHYSICOCHEMICAL PROPERTIES

pH Optima: 6.5
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 a solution containing 50% glycerol and 0.02% (w/v) sodium azide and should be stored below -10°C. For assay, this enzyme should be diluted in sodium phosphate buffer (100 mM), pH 6.5 containing 0.5 mg/mL BSA.

Swirl to mix the enzyme immediately prior to use.