CELLULASE (*endo*-1,4-β-D-glucanase) from *B. amyloliquifaciens* (Lot 160603b)

Recombinant

E-CELBA **01/20**

(EC 3.2.1.4) 4-beta-D-glucan 4-glucanohydrolase
CAZy Family: GH5
CAS: 9012-54-8

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 34,300)
- One major band on isoelectric focusing (pI ~ 6.1)

2. SPECIFIC ACTIVITY:

60 U/mg protein (on CM-Cellulose 4M) at pH 6.0 and 40°C

One Unit of cellulase activity is defined as the amount of enzyme required to release one µmole of glucose reducing-sugar equivalents per minute from CM-Cellulose 4M (10 mg/mL) in sodium phosphate buffer (100 mM), pH 6.0 at 40°C.

3. SPECIFICITY:

endo-hydrolysis of (1,4)-β-D-glucosidic linkages in cellulose.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
CM-Cellulose 4M	100
Barley β-Glucan	~ 138
Wheat Arabinoxylan	< 0.007
p-NP-β-D-glucoside	< 0.005
Carob Galactomannan	< 0.002
Xyloglucan (Tamarind)	< 0.001
Starch	< 0.0001

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 phosphate buffer (100 mM), pH 6.0 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 6.0 and up to 60°C

pH Optima:	6.0
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 60°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 phosphate buffer (100 mM), pH 6.0 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA: