CELLULASE (*endo*-β-GLUCANASE) from *B. amyloliquifaciens* (Lot 91101c)

Recombinant

E-CELBA **03/14**

(EC 3.2.1.4) 4-beta-D-glucan 4-glucanohydrolase

CAZy: GH Family 5

PROPERTIES

1. ELECTROPHORETIC PURITY:

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

2. SPECIFIC ACTIVITY:

82 U/mg protein (on CM-Cellulose 4M) at pH 6.0 and 40°C; 168 U/mg protein (on CM-Cellulose 4M) at pH 6.0 and 60°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.

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

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

Action on polysaccharide and *p*-NP substrates was determined at final substrate concentrations of 5 mg/mL and 5 mM, respectively, in sodium phosphate buffer (100 mM), pH 6.0 at 40°C.

4. PHYSICOCHEMICAL PROPERTIES:

pH Optima: 6.0

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 60°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 6.0 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**