CELLULASE (*endo* β-GLUCANASE) from *Talaromyces emersonii* (Lot 170703b)

E-CELTE
(formerly *Penicillium emersonii*) **03/19**

(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 ~ 37,000 and 47,200)
- Two major bands on isoelectric focusing (pI ~ 3.4 and 3.6)

2. SPECIFIC ACTIVITY:
70 U/mg protein (on CM-Cellulose) at pH 4.5 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 acetate buffer (100 mM), pH 4.5 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	72
Xyloglucan (Tamarind)	0.212
Wheat Arabinoxylanylan	0.410
Carob Galactomannan	0.159
Ceralpha Reagent	0.010
p-NP-α-Glucoside	<0.00051
p-NP-β-Glucoside	0.0039

Action on *p*NP-substrates and polysaccharides or oligosaccharides was determined at a final substrate concentration of 5 mM and 10 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 4.5-5.5 and up to 80°C

pH Optima:	4.5-5.5
pH Stability:	3.0-9.0 (> 75% control activity after 16h at 4°C)
Temperature Optima:	80°C (10 min reaction)
Temperature Stability:	> 80%

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.**

7. EXPERIMENTAL DATA: