

CELLULASE (endo-ß-GLUCANASE) from Talaromyces emersonii (Lot 30602a)

E-CELTE (formerly known as *Penicillium emersonii*) (EC 3.2.1.4) 4-beta-D-glucan 4-glucanohydrolase

06/14

CAZy: GH Family 5

PROPERTIES

I. ELECTROPHORETIC PURITY:

- Two bands on SDS-gel electrophoresis (MW = 37,000 - cellulase)

(and 47,200 - non-active)

- Two major bands on isoelectric focusing (pl's = 3.4 and 3.6)

2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES:

Substrate	Enzyme Measured	Specific Activity (U/mg protein)
CM-Cellulose 4M	endo-1,4-ß-Glucanase	64
CM-Cellulose 7M	endo-1,4-ß-Glucanase	26
Barley B-Glucan	endo-1,4-ß-Glucanase	46
Xyloglucan (Tamarind)	endo-1,4-ß-Glucanase	0.1
Konjac Glucomannan	endo-1,4-ß-Glucanase	0.3
Wheat Arabinoxylanylan	endo-1,4-ß-Xylanase	0.52
Carob Galactomannan	endo-1,4-ß-Mannanase	0.13
Ceralpha Reagent	lpha-Amylase	0.001
p -NP- α -Glucoside	lpha-Glucosidase	0.001
p-NP-ß-Glucoside	B-Glucosidase	0.004

All activities except α -amylase are at pH 4.5 and 40°C. Glycosidase activities were measured using the appropriate p-Nitrophenyl glycoside (at 10 mM). endo-Glycanases were determined with the appropriate substrate (at 10 mg/mL) and using the Nelson/Somogyi reducing-sugar procedure. α -Amylase measured using the Ceralpha reagent at pH 5.2.

3. PHYSICOCHEMICAL PROPERTIES:

pH Optima: 4.5 - 4.6

pH Stability: 3-8 (I h at 40°C or 30 h at 4°C).

Temperature Optima: 70°C
Temperature stability: < 70°C

4. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension in 0.02% sodium azide and should be stored at 4°C. On dilution in buffer or water, the enzyme should be stored in the frozen state between use.

The concentration of enzyme as supplied is approximately 700 U/mL.