CELLULASE (*endo*-1,4-β-D-GLUCANASE) from *T. longibrachiatum* (Lot 111103a)

Non-recombinant

E-CELTR **12/20**

(EC 3.2.1.4)
Synonyms: cellulase; 4-beta-D-glucan 4-glucanohydrolase
CAZy Family: GH7
CAS: 9012-54-8

PROPERTIES

1. ELECTROPHORETIC PURITY

- single band on SDS-gel electrophoresis (MW = 57,250); some minor bands
- single major band on Isoelectric focusing (pI = 4.7); minor band at pI 4.6

2. SPECIFIC ACTIVITY:

60 U/mg protein (on CM-cellulose) at pH 4.5 and 40°C

One Unit of *endo*-cellulase is defined as the amount of enzyme required to release one µmole of glucose per minute from CM-cellulose (10 mg/mL) in sodium acetate buffer (100 mM) at pH 4.5 and 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
Xyloglucan (Tamarind)	70
Barley β-Glucan	69
Birchwood Xylan	10
Konjac Glucomannan	5.81
Carob Galactomannan	< 0.05
Starch	< 0.05
Curdlan	< 0.04
Pachyman	< 0.0014
*p*NP-α-Glucoside	< 0.0014
*p*NP-β-Glucoside	< 0.0014
*p*NP-β-Xyloside	< 0.0014
*p*NP-α-Galactoside	< 0.0014
*p*NP-β-Galactoside	< 0.0014
*p*NP-β-Mannoside	< 0.0014
*p*NP-α-L-arabinoside	< 0.0014

Action on *p*NP-substrates and polysaccharides or oligosaccharides was determined at a final substrate concentration of 10 mM and 10 mg/mL, respectively, in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

3. PHYSICOCHEMICAL PROPERTIES

pH Optima:	4.5-5.0
pH Stability:	2.5-7.5
Temperature Optima:	70°C
Temperature Stability:	< 65°C

4. STORAGE AND USE CONDITIONS / RECOMMENDATIONS

The enzyme is supplied as an ammonium sulphate suspension containing 0.02% 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. **Swirl to mix the enzyme immediately prior to use.**