



CELLOBIOHYDROLASE I from *Trichoderma* sp. (Lot 190501a)

E-CBHI

12/19

(EC 3.2.1.176) cellulose 1,4-beta-cellobiosidase (non-reducing end)

CAZy Family: GH7

CAS: 37329-65-0

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW = 65,000)

2. SPECIFIC ACTIVITY:

0.12 U/mg protein (40°C, pH 4.5 on pNP-β-lactoside)

One Unit of cellobiohydrolase activity is defined as the amount of enzyme required to release one μmole of *p*-nitrophenol (*p*NP) per minute from *p*-nitrophenol-β-lactoside in sodium acetate buffer (100 mM), pH 4.5 and 40°C.

3. SPECIFICITY:

Hydrolysis of (1,4)-β-D-glucosidic linkages in cellulose and cellotetraose, releasing cellobiose from the non-reducing ends of the chains. Active on *p*NP-β-lactoside.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
<i>p</i> -Nitrophenyl β-lactoside	100
CM-Cellulose	24.52
<i>p</i> -Nitrophenyl β-cellobioside	0.18
Cellazyme C Tablets	0.72
<i>p</i> -Nitrophenyl β-D-Glucopyranoside	0.06

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 acetate buffer (100 mM), pH 4.5 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:

pH Optima: 4.5 - 5.0

pH Stability: 2.5 - 6.5

Temperature Optima: 70°C

Temperature Stability: < 65°C

6. STORAGE CONDITIONS:

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. On dilution in buffer or water, the enzyme should be stored in the frozen state between use. **Swirl to mix the enzyme immediately prior to use.**

7. REFERENCE:

Claeysens, M. and Aerts, G. (1992) "Characterisation of cellilytic activities in commercial *Trichoderma reesei* preparations: An approach using small, chromogenic substrates. **Bioresource Technology**, **39**, 143-146.