



CELLOBIOHYDROLASE I (CBH I) from *Trichoderma* sp. (Lot 40203c)

E-CBHI

10/15

(EC 3.2.1.176)

PROPERTIES

1. ELECTROPHORETIC PURITY:

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

2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES:

Substrate	Specific Activity (U/mg protein)
CMC-4M	0.108
<i>p</i> -Nitrophenyl β -Lactoside	0.050
<i>p</i> -Nitrophenyl β -Cellobioside	0.0074
Cellazyme C Tablets	< 0.005
<i>p</i> -Nitrophenyl β -D-Glucopyranoside (β -Glucosidase)	< 0.003

Activity on CMC-4M was determined at a substrate concentration of 10 mg/mL at pH 4.5 and 40°C. One Unit of activity is defined as the amount of enzyme required to release 1 μ mole of glucose-reducing-sugar equivalents per minute at pH 4.5 and 40°C.

Activity on *p*-NP β -lactoside and *p*-NP β -cellobioside was determined at a substrate concentration of 2 mM at pH 4.5 and 40°C. One Unit of activity is defined as the amount of enzyme required to release 1 μ mole of *p*-nitrophenol from the substrate at pH 4.5 and 40°C.

3. PHYSICOCHEMICAL PROPERTIES:

pH Optima: 4.5 - 5.0
 pH Stability: 2.5 - 6.5
 Temperature Optima: 70°C
 Temperature Stability: < 65°C

4. STORAGE CONDITIONS:

The enzyme is supplied at 10 mg protein/mL 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.

5. REFERENCE:

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

Figure 1. SDS-PAGE analysis of typical preparation of Cellobiohydrolase I (CBH I) (*Trichoderma longibrachiatum*)

Electrophoresis was performed using a 9% acrylamide gel. Lane 1, low molecular weight markers (Sigma cat. no. M-3918); lane 2, 5 μ g CBH II; Lane 3, high molecular weight markers (Sigma cat. no. M-3788); Lane 4, 2 μ g CBH I; Lane 5, low molecular weight markers (Sigma cat. no. M-3918); Lane 6, 4 μ g CBH I; Lane 7, high molecular weight markers (Sigma cat. no. M-3788).

