CELLOBIOHYDROLASE I (CBH I) from *Trichoderma* sp. (Lot 20401)

E-CBHI 02/04

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
p-Nitrophenyl β-Lactoside	0.066
p-Nitrophenyl β-Cellobioside	0.0074
Cellazyme C Tablets	< 0.005
p-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^{O}C. One Unit of activity is defined as the amount of enzyme required to release 1 µmole 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 µmole 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.
Temp. 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

Claeyssens, 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 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, 5µg CBH II; lane 3,high molecular weight markers (Sigma cat.no. M-3788); lane 4, 2µg CBH I;lane 5,low molecular weight markers (Sigma cat.no. M-3918); Lane 6, 4µg CBH I; lane 7,high molecular weight markers (Sigma cat. no. M-3788).