β-GLUCOSIDASE from *Aspergillus niger* (Lot 141001)

E-BGLUC **10/14**

(EC 3.2.1.21) beta-D-glucoside glucohydrolase
CAZy: GH Family 3

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW = 121,000)
- Single major band on isoelectric focusing (pI = 4.0)

2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES:

One Unit of enzyme activity is defined as the amount of enzyme required to release one micromole of *p*-nitrophenol from *p*-nitrophenyl β-glucoside in one minute at 40°C and pH 4.0. Glycosidase activities were measured using the appropriate *p*-nitrophenyl glycoside (at 10 mM), and *endo*-glycanase activites were determined with the appropriate substrate (10 mg/mL) and using the Nelson/Somogyi reducing sugar procedure.

Enzyme Activity	Substrate	Activity (U/mg protein)
β-Glucosidase	*p*-NP-β-Glucoside	52
β-Glucosidase	Cellobiose	108
α-Amylase	Starch	< 0.01
Amyloglucosidase	Starch	< 0.01
Maltase	Maltose	< 0.005
endo-1,4-β-Glucanase	CM-Cellulose	< 0.005
Invertase	Sucrose	< 0.01

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	Relative Hydrolysis Rate
Cellobiose	100
Cellotriose	109
Cellotetraose	89
Gentiobiose	53
Sophorose	43
1,4-β-D-Glucosyl-D-mannose	35
Methyl-β-D-glucopyranoside	15
p-Nitrophenyl β-glucopyranoside	47
p-Nitrophenyl β-xylanopyranoside	1.2
p-Nitrophenyl α-glucopyranoside	< 0.1

4. PHYSICOCHEMICAL PROPERTIES:

pH Optima:	4.0	Temperature Optima:	70°C
pH Stability:	2.5-7.5	Temperature Stability:	Unstable above 60°C