# β-GLUCOSIDASE from *Aspergillus niger* (Lot 150102c)

**E-BGLUC** **02/19**

(EC 3.2.1.21) beta-D-glucoside glucohydrolase
CAZy Family: GH3
CAS: 9001-22-3

## PROPERTIES

### 1. ELECTROPHORETIC PURITY:

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

### 2. SPECIFIC ACTIVITY:

**80 U/mg protein (on *p*NP-β-L-glucopyranoside) at pH 4.0 and 40°C**

**One Unit** of β-glucosidase activity is defined as the amount of enzyme required to release one µmole of *p*-nitrophenol per minute from *p*NP-β-L-glucopyranoside in sodium acetate buffer (100 mM), pH 4.0 at 40°C.

### 3. SPECIFICITY:

Hydrolysis of terminal, non-reducing β-D-glucosyl residues with release of β-D-glucose.

### 4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

| Substrate | % |
|---|---|
| *p*NP-β-glucopyranoside | 100 |
| Starch | < 0.065 |
| Sucrose | < 0.045 |
| Maltose | < 0.019 |
| CM-Cellulose | < 0.0075 |

Action on *p*NP-substrates and polysaccharides was determined at a final substrate concentration of 5 mM and 5 mg/mL, respectively, in sodium acetate buffer (100 mM), pH 4.0 at 40°C.

### 5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 4.0-5.0 and up to 60°C

| | |
|---|---|
| pH Optima: | 4.0 |
| pH Stability: | 3.0-9.0 (> 75% control activity after 24 h at 4°C) |
| Temperature Optima: | 70°C (10 min reaction) |
| Temperature Stability: | up to 60°C (> 75% control activity after 15 min incubation at temperature) |

### 6. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension containing 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 4.0 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

## 7. EXPERIMENTAL DATA: