



β-GLUCOSIDASE from *Agrobacterium* sp. (Lot 100201d)

Recombinant

E-BGOSAG

02/19

(EC 3.2.1.21) beta-D-glucoside glucohydrolase

CAZy Family: GH1

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 52,200)
- One major bands on isoelectric focusing (pI ~ 5.5)

2. SPECIFIC ACTIVITY:

120 U/mg protein (on *p*-NP-β-D-glucopyranoside) at pH 7.0 and 40°C.

One Unit of β-glucosidase activity is defined as the amount of enzyme required to release one μmole of of *p*-nitrophenol (*p*-NP) per minute from *p*-nitrophenyl-β-D-glucopyranoside (10 mM) in sodium phosphate buffer (50 mM), pH 7.0 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:

Enzyme measured	%
<i>p</i> -NP-β-D-Glucopyranoside	100
Cellobiose	~ 110
<i>p</i> -NP-β-D-Galactopyranoside	~ 57
Ceralpha Reagent	< 0.0001
Starch	< 0.0001
<i>p</i> -NP-α-D-Glucopyranoside	< 0.0001
Cellzyme C Tablets (<i>endo</i> -1,4-β-Glucanase)	< 0.0001

Action on polysaccharide and *p*-nitrophenyl substrates was determined at final concentrations of 5 mg/mL and 5 mM, respectively, in sodium phosphate buffer (100 mM), pH 7.0 at 40°C.

5. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Cellobiose	100
Laminaribiose	~ 83
Laminaritriose	~ 37
Laminaritetraose	~ 11
Laminaripentaose	~ 13
Laminarihexaose	~ 11
Gentiobiose	~ 8.1
Sophorose	~ 48
1,4-β-D-Glucosyl-D-mannose	~ 26
<i>p</i> -Nitrophenyl β-D-xylanopyranoside	~ 2.6
<i>p</i> -Nitrophenyl α-D-glucopyranoside	< 0.0001

6. PHYSICOCHEMICAL PROPERTIES:

pH Optima: 6.5 - 7.0 (at 40°C)

pH Stability: 5.0 - 9.0 (at 40°C for 30 min)

Temperature Optima: 50°C (10 min at pH 7.0)

Temperature Stability: Unstable above 50°C

7. STORAGE CONDITIONS

The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium phosphate buffer (50 mM), pH 7.0 containing 0.5 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**