



β -GLUCOSIDASE from *Phanerochaete chrysosporium* (Lot 121101b)

Recombinant - Thermostable

E-BGOSPC

10/13

Full length enzyme containing the N-terminal cellulose-binding domain (CBM1) and a C-terminal catalytic domain (GH3).
(EC 3.2.1.21) beta-D-glucoside glucohydrolase
CAZy: GH Family 3

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 84,500)
- One major bands on isoelectric focusing (pI ~ 5.8)

2. SPECIFIC ACTIVITY:

103 U/mg protein (on *p*-NP- β -D-Glucopyranoside) at pH 5.0 and 40°C. ~ 320 U/mg protein (on *p*-NP- β -D-Glucopyranoside) at pH 5.0 and 60°C.

One Unit of β -glucosidase activity is defined as the amount of enzyme required to release one μ mole of of *p*-nitrophenol (*p*-NP) per minute from *p*-nitrophenyl- β -D-glucopyranoside (5 mM) in sodium acetate buffer (100 mM), pH 5.0 at 40°C.

3. SPECIFICITY:

Hydrolysis of terminal non-reducing β -D-glucosidic bonds releasing β -D-glucose.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Enzyme Measured	Substrate	Activity, %
β -Glucosidase	<i>p</i> -NP- β -D-Glucopyranoside	100
β -1,4-D-Glucosidase	Cellobiose	~ 14
β -1,6-D-Glucosidase	Gentiobiose	~ 70
β -Galactosidase	<i>p</i> -NP- β -D-Galactopyranoside	< 0.02
α -Glucosidase	<i>p</i> -NP- α -D-Glucopyranoside	< 0.004
α -Glucosidase	Maltose	< 0.0001
β -Xylosidase	<i>p</i> -NP- α -D-Xylopyranoside	~ 0.6
α -Amylase	Ceralpha Reagent (Megazyme)	< 0.0001
Amyloglucosidase	Starch	< 0.0001
<i>endo</i> -1,4- β -Glucanase	CM-Cellulose 4M	< 0.003

Action on polysaccharide and *p*-nitrophenyl substrates was determined at final concentrations of 10 mg/mL and 5 mM, respectively, in sodium acetate buffer (100 mM), pH 5.0 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 3.0 - 5.0 and up to 60°C

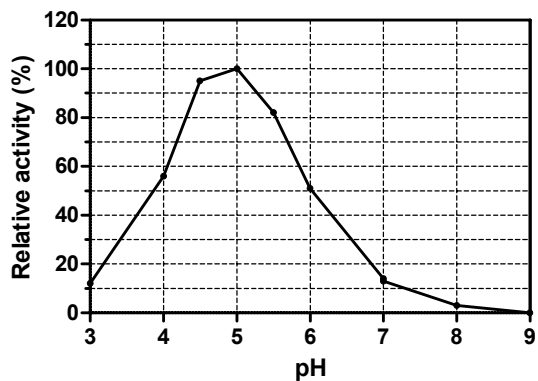
- pH Optima: 4.5 - 5.0
- pH Stability: 3.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
- Temperature Optima: 60 - 70°C (10 min. reaction)
- Temperature Stability: up to 60°C

6. STORAGE CONDITIONS

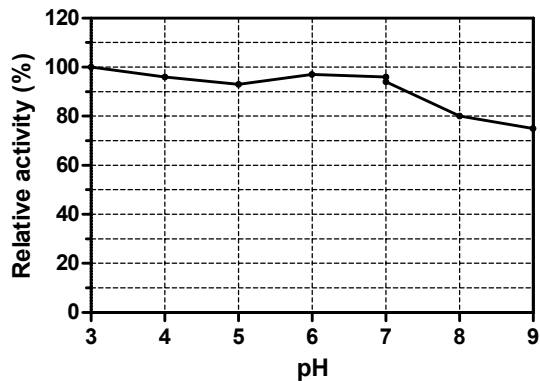
The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 5.0 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA

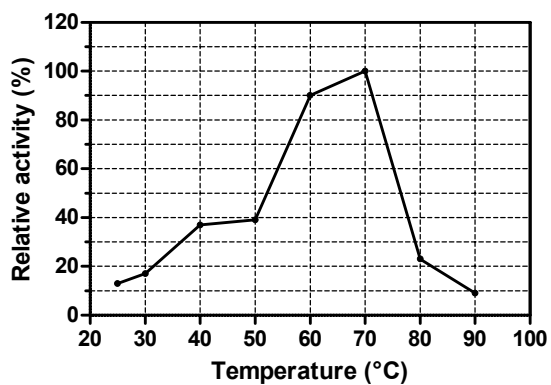
pH Optima



pH Stability



Thermal Optima



Thermal Stability

