



## exo-1,3- $\beta$ -GLUCANASE from *Trichoderma virens* (Lot 141001c)

### Recombinant

#### E-EXBGTV

03/17

(EC 3.2.1.58) glucan 1,3-beta-glucosidase; 3-beta-D-glucan glucohydrolase

CAZy: GH Family 55

CAS: 9073-49-8

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY

- Single band on SDS-gel electrophoresis (MW ~ 81,700)
- Single major band on isoelectric focusing (pI ~ 7.0)

#### 2. SPECIFIC ACTIVITY

**100 U/mg protein (on laminarin) at pH 4.5 and 50°C;**

~ 64 U/mg protein (on laminarin) at pH 4.5 and 40°C.

**One Unit** of exo-1,3- $\beta$ -glucanase activity is defined as the amount of enzyme required to release one  $\mu$ mole of glucose reducing sugar equivalents per minute from laminarin (*Laminaria digitata*) (5 mg/mL) in sodium acetate buffer (100 mM) at pH 4.5 and 50°C.

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

Substrate	Relative Hydrolysis Rate
Laminarin ( <i>Laminaria digitata</i> )	100
Barley $\beta$ -Glucan	~ 0.29
CM-Cellulose 4M	~ 0.015
CM-Curdlan (2.5 mg/mL)	< 0.0001
Scleroglucan (1 mg/mL)	~ 21
Cellobiose	~ 0.0043
Maltose	~ 0.0082
p-NP- $\beta$ -D-galactoside	~ 0.0009
p-NP- $\beta$ -D-glucoside	~ 0.0032
p-NP- $\beta$ -D-mannoside	~ 0.0008
p-NP- $\beta$ -D-xyloside	~ 0.0014

Unless stated in the table above, action on disaccharide and polysaccharide substrates was determined at a final substrate concentration of 2 mg/mL and 10 mg/mL, respectively, in sodium acetate buffer (100 mM), pH 4.5 at 40°C. Action on p-NP-substrates was determined at a final substrate concentration of 5 mM in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

#### 4. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 4.0 - 5.0 and 50°C.

pH Optima: 4.0 - 5.0

pH Stability: 4.0 - 9.0 (> 75% control activity after 24 hours at 4°C)

Temperature Optima: 50°C (10 min. reaction)

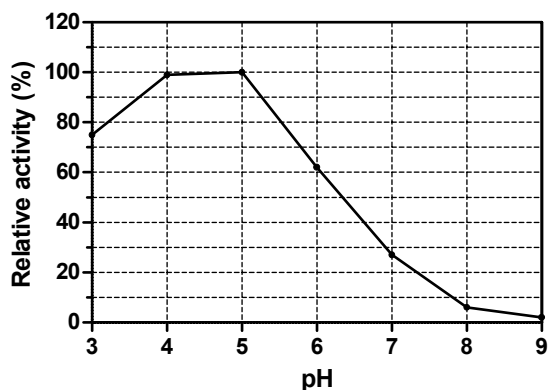
Temperature Stability: up to 40°C

#### 5. STORAGE AND USE CONDITIONS:

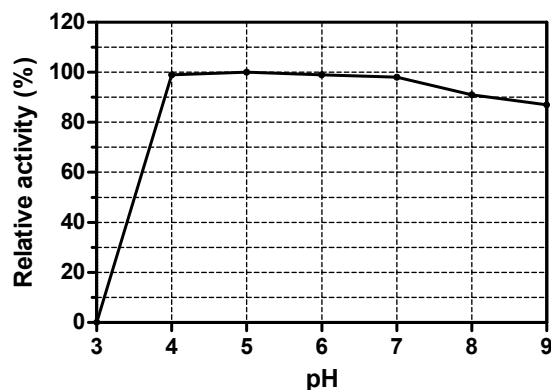
The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (20 mM), pH 4.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

#### 6. EXPERIMENTAL DATA:

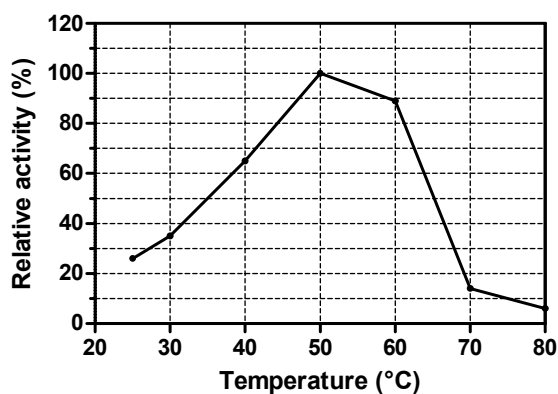
pH Optima



pH Stability



Thermal Optima



Thermal Stability

