exo-1,3-β-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-β-glucanase activity is defined as the amount of enzyme required to release one µmole 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 (*Laminaria digitata*)	100
Barley β-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-β-D-galactoside	~ 0.0009
p-NP-β-D-glucoside	~ 0.0032
p-NP-β-D-mannoside	~ 0.0008
p-NP-β-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: