

endo-1,3- β -D-GLUCANASE (barley) (Lot 211102A)

Recombinant

E-LAMHV

09/22

EC: 3.2.1.39

Synonyms: glucan *endo*-1,3-beta-D-glucosidase GII from barley (*Hordeum vulgare*)

CAZy Family: GH17

CAS: 9025-37-0

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 34,100)
- One major band on isoelectric focusing (pI ~ 8.4)

2. SPECIFIC ACTIVITY:

100 U/mg protein (on laminarin) at pH 5.0 and 40°C

One Unit of β -1,3-glucanase activity is defined as the amount of enzyme required to release one μ mole of glucose reducing-sugar equivalents per minute from laminarin (10 mg/mL) in sodium acetate buffer (100 mM) pH 5.0.

3. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	Relative Hydrolysis Rate
Laminarin	100
Barley β -Glucan	< 0.001
CM-Cellulose 4M	< 0.01
CM-Curdlan	< 0.1

Action on polysaccharide substrates was determined at a final substrate concentration of 10 mg/mL in sodium acetate buffer (100 mM), pH 5.0 at 40°C.

4. PHYSICOCHEMICAL PROPERTIES:

- pH Optima: 5.0
pH Stability: 3.0-9.0 (> 75% control activity after 24 h at 4°C)
Temperature Optima: 40-50°C (10 min reaction)
Temperature Stability: up to 50°C (> 90% control activity after 15 min)

5. STORAGE CONDITIONS:

The enzyme is supplied as a solution containing 50% glycerol plus 0.02% (w/v) sodium azide and should be stored at -20°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 5.0 containing 1 mg/mL BSA.

6. SPECIFICITY:

Hrmova, M. & Fincher, G. B. (1993). Purification and properties of three (1,3)- β -D-glucanase isoenzymes from young leaves of barley (*Hordeum vulgare*). *Biochem. J.*, 289, 453–461.