endo-1,3-β-D-GLUCANASE from Barley (Lot 180301)

Recombinant

E-LAMHV **04/18**

(EC 3.2.1.39) glucan *endo*-1,3-beta-D-glucosidase GII from barley (*Hordeum vulgare*)
CAZy Family: GH17

PROPERTIES

1. ELECTROPHORETIC PURITY:

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

2. SPECIFIC ACTIVITY:

110 U/mg protein 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 µmole 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 hours 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. REFERENCES

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.*