α-GLUCOSIDASE from *Bacillus stearothermophilus* (Lot 151101b)

E-TSAGL **07/17**

(EC 3.2.1.20) alpha-glucosidase; alpha-D-glucoside glucohydrolase
CAZy Family: GH13
CAS: 9001-42-7

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single major band on SDS-gel electrophoresis (MW ~57,750)
- Two bands on isoelectric focusing (pI ~5.3 and 5.5)

2. SPECIFIC ACTIVITY:

101 U/mg protein (on *p*-NP-α-glucoside) at pH 6.5 and 40°C

One Unit of α-glucosidase activity is defined as the amount of enzyme required to release one µmole of a *p*-nitrophenol per minute from *p*-NP-α-glucoside (10 mM) in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

3. SPECIFICITY:

Hydrolysis of terminal, non-reducing α-1,4-linked D-glucose residues with release of D-glucose.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	Enzyme	%
p-NP-α-Glucoside	α-Glucosidase	101.0
Maltose	α-Glucosidase	177.0
Phenyl α-glucopyranoside	α-Glucosidase	58.8
Blocked *p*-NP-Maltoheptoaside	α-Amylase	< 0.0001

Action on *p*NP-substrates and oligosaccharides was determined at a final substrate concentration of 5 mM in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 6.0-7.0 and up to 40°C

pH Optima:	6.0-7.0
pH Stability:	6.0-9.0 (16 h, 4°C)
Temperature Optima:	60°C
Temperature Stability:	< 60°C (pH 6.5, 15 min)

6. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension containing 0.02% sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium phosphate buffer (100 mM), pH 6.5 containing 0.5 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA: