β-AMYLASE FROM BARLEY (Lot 170501a)

E-BARBL-100KU **07/17**

(EC 3.2.1.2) beta-amylase; 4-alpha-D-glucan maltohydrolase
CAZy Family: GH14
CAS: 9000-91-3

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 58,300)
- Two major bands on isoelectric focusing (pI ~ 5.4 & 5.7)

- One minor band on isoelectric focusing (pI ~ 5.0)

2. SPECIFIC ACTIVITY:

435 U/mg protein (on soluble starch) at pH 6.0 and 40°C

One Unit of β-amylase activity is defined as the amount of enzyme required to release one µmole of maltose reducing-sugar equivalents per minute from soluble starch (10 mg/mL) in sodium phosphate buffer (200 mM), pH 6.0 at 40°C.

3. SPECIFICITY:

Hydrolysis of α-1,4-D-glucosidic linkages in polysaccharides releasing maltose units from the non-reducing end.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Starch	100
Betamyl-3 Reagent	2.5

Action on starch was determined at a final substrate concentration of 5 mg/mL in sodium phosphate buffer (200 mM), pH 6.0 at 40°C. Action on Betamyl-3 reagent was determined as per Megazyme's Betamyl-3 assay procedure (**K-BETA3**).

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 6.0-7.0 and up to 60°C

pH Optima:	6.0
pH Stability:	4.5-8.0
Temperature Optima:	60°C
Temperature Stability:	up to 60°C

6. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension containing 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium phosphate buffer (200 mM), pH 6.0. **Swirl to mix the enzyme immediately prior to use.**

This enzyme is also supplied in powder form (**E-BARBP**) at 20,000 International Units (starch substrate, as above) per gram.