α-AMYLASE (Bacillus amyloliquefaciens) (Lot 161201a)

Non-recombinant

E-BAASS **12/20**

(EC 3.2.1.1)

CAZy Family: GH13

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Several bands on isoelectric focusing (pI = 4.8-5.2)
- Single major band on SDS-gel electrophoresis (MW = 54,700). Few minor bands.

2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES:

Substrate	Specific Activity (U/mg Protein)
α-Amylase (Ceralpha Reagent at pH 6.0)	60.0
α-Glucosidase (p-nitrophenyl α-glucoside)	0.006
Amyloglucosidase (*p*-Nitrophenyl β-maltoside)	0.005
endo -1,4-β-Glucanase (CM-Cellulose 4M)	0.092

One Unit of α-amylase is the amount of enzyme required to release one µmole of *p*-nitrophenol from blocked *p*-nitrophenyl-maltoheptaoside per minute (in the presence of excess α-glucosidase) (i.e. Ceralpha Reagent) at pH 6.5 and 40°C.

3. PHYSICOCHEMICAL PROPERTIES:

pH Optima:	6.5
pH Stability:	5.5-7.5
Temperature Optima:	65°C
Temperature Stability:	< 70°C

4. STORAGE CONDITIONS:

The enzyme is supplied in vials of 20 mL as a stabilised solution and should be stored below -10°C. It is supplied at a concentration of 145 U/mL on Ceralpha Reagent at pH 6.5 and 40°C (i.e. 430 U/mL on soluble starch under the same assay conditions).

This enzyme has been used for structural studies of the branching pattern of amylopectins, especially for isolation of clusters and building blocks.

Bertoft, E. (2007). Composition of clusters and their arrangement in potato amylopectin. **Carbohydr. Polym, 68,** 433-446.

Bertoft, E. (2007). Composition of building blocks in clusters of potato amylopectin. **Carbohydr. Polym., 70,** 123-136.

Bertoft, E., Koch, K. & Aman, P. (2012). Building block organisation of clusters in amylopectins of different structural types, **Int. J. Biol. Macromol., 50**, 1212-1223.