



α -AMYLASE (*Bacillus amyloliquefaciens*) (Lot I20201a)

E-BAASS

(EC 3.2.1.1)

CAZy: GH Family 13

12/16

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)	54.0
α -Glucosidase (<i>p</i> -nitrophenyl α -glucoside)	0.006
Amyloglucosidase (<i>p</i> -Nitrophenyl β -maltoside)	0.005
<i>endo</i> -1,4- β -Glucanase (CM-Cellulose 4M)	0.092

One Unit of α -amylase is the amount of enzyme required to release one μ mole 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 at -20°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.

Figure 1. SDS Gel electrophoresis of E-BAASS (lot 120201a)

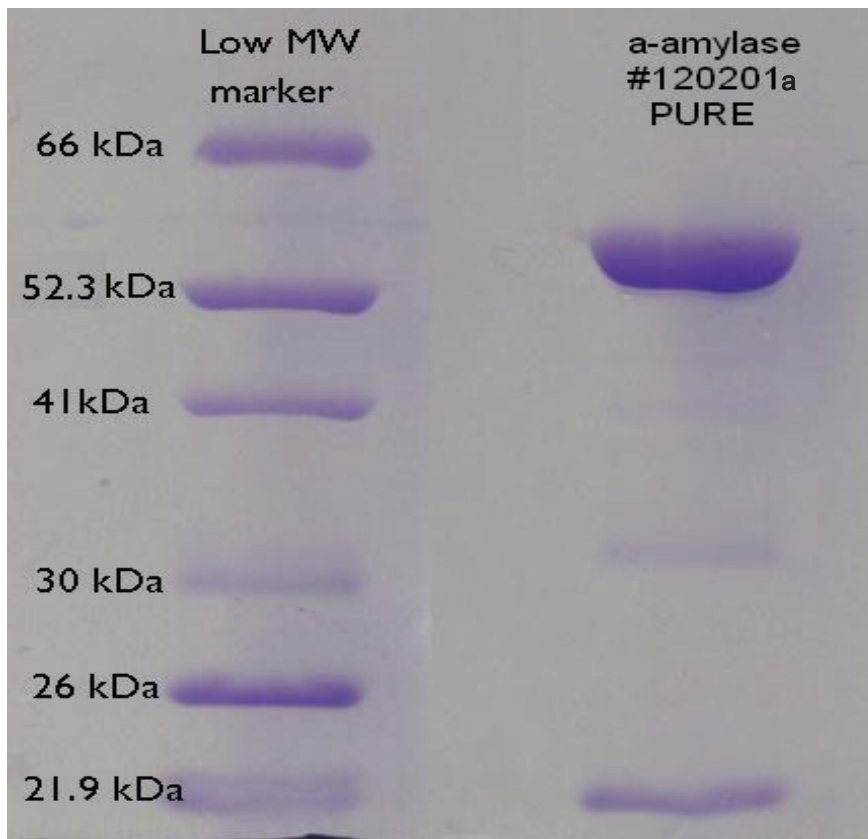


Figure 2. Isoelectric focussing of E-BAASS (lot 120201a)

