



ISOAMYLASE from *Pseudomonas* sp. (Lot 130102a)

Non-recombinant

E-ISAMY

(EC 3.2.1.68)

Synonyms: glycogen 6-alpha-D-glucanohydrolase

CAZy Family: GH13

CAS: 9067-73-6

04/20

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single major band on SDS-gel electrophoresis (MW = 71,500).
- Single major band on isoelectric focusing (pI = 5.0).

2. SPECIFIC ACTIVITY:

~ 180 U/mg protein (on oyster glycogen) at pH 4.0 and 40°C

One Unit of isoamylase activity is defined as the amount of enzyme required to release one μ mole of reducing sugar per minute from oyster glycogen (10 mg/mL) in sodium acetate buffer (100 mM), pH 4.0 at 40°C. One Unit as defined here is approximately equal to 67 KU as defined by Sigma for Isoamylase (rice starch as substrate at pH 3.5 and 40°C).

3. SPECIFICITY:

Hydrolysis of (1,6)- α -D-glucosidic branch linkages in glycogen, amylopectin and their β -limit dextrins.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Enzyme Activity	Substrate	%
Isoamylase	Oyster glycogen	100
α -Amylase	Reduced maltoheptaose	< 0.0004
Maltase	Maltose	< 0.0004
exo- α -Glucanase	Linear- α -1,4-maltodextrins	< 0.003

Actions were determined at 40°C and pH 4.0. α -Amylase was measured by monitoring hydrolysis of maltoheptaose by HPLC using a Waters Sugar Pac[®] column. Incubation of 100 U of isoamylase with 0.2 mL of maltoheptaose (10 mg/mL) at pH 4.0 resulted in no production of low molecular weight oligosaccharides in 16 h. Maltase (α -glucosidase) was measured with maltose (10 mg/mL) as substrate and exo- α -glucanase was measured with linear- α -1,4-maltodextrins (10 mg/mL) as substrate with measurement of released D-glucose.

Recommended for use in AOAC 2000.11 (polydextrose in food)

4. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 4.0 and up to 40°C

pH Optima: 4.0-5.0

pH Stability: 3.5-6.0 (16 h, 4°C)

Temperature Optima: 50°C

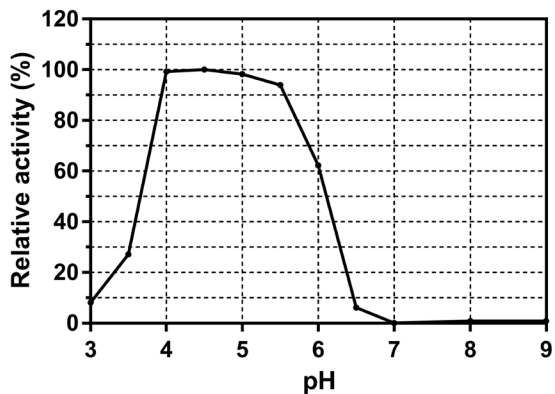
Temperature Stability: < 45°C (pH 4.0, 15 min)

5. PRODUCT DETAILS:

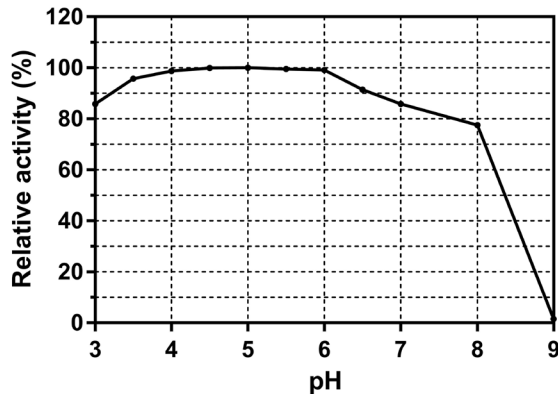
The enzyme is supplied as an ammonium sulphate suspension containing 0.02% sodium azide and should be stored at 4°C. This enzyme is very unstable to freezing and thawing. **DO NOT FREEZE.** It is recommended that all buffers used for dilution contain BSA (1 mg/mL). **Swirl to mix the enzyme immediately prior to use.**

6. EXPERIMENTAL DATA:

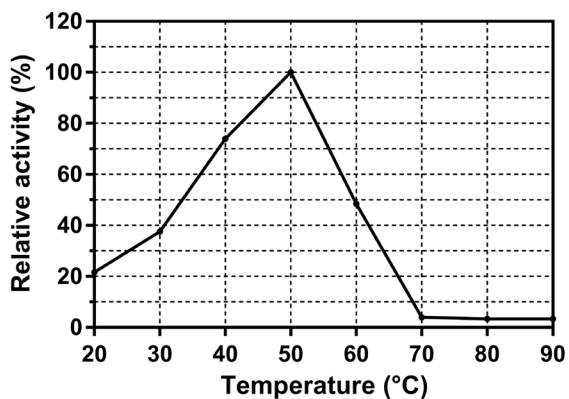
pH Optima



pH Stability



Thermal Optima



Thermal Stability

