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

Non-recombinant
E-ISAMY **04/20**
(EC 3.2.1.68)
Synonyms: glycogen 6-alpha-D-glucanohydrolase
CAZy Family: GH13
CAS: 9067-73-6

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 µmole 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: