



Cat. No.: URID-001

Uricase-D

(ETERBIO-EZ-URID-001)

Lot No.: _____

Expiry Date: yy / mm / dd

Store at -20°C

Origin

Microorganism

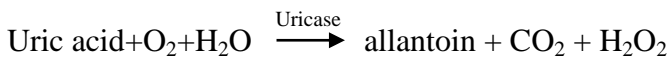
Specification

Appearance	Lyophilized powder
Activity	≥ 30 U/mg protein at 37°C

Properties

Molecular weight	37 kDa	
Isoelectric point	6.1	
Stability	stored at -20°C for at least 1 year	(Fig.1)
Optimum pH	6.5	(Fig.2)
Optimum temperature	45°C	(Fig.3)
pH stability	7.5-10.0 (4°C, 16hr)	(Fig.4)
Thermal stability	50°C	(Fig.5)

Assay



The decrease of uric acid is measured at 293nm by spectrophotometry.

Unit definition

One unit enzyme will cause the oxidation of one micromole of uric acid per minute at 37°C under the standard assay.

Method

Reagent :

(A) 20 mM Boric acid, pH9.0



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(B) 3.57 mM uric acid

(C) Enzyme solution : Dissolve in 10 mM K-phosphate, pH7.0

Procedure :

1. Prepare 3 ml (A) and 0.1ml (B), then put the reaction mixture in a cuvette (d = 1.0cm) and equilibrate at 37°C for about 5 minutes.
2. Add 0.02 ml (C) (dilute the enzyme to 0.3-0.6 U/ml with the K-phosphate buffer), mix well with procedure 1.
3. Record the decrease in optical density at 293 nm for 5 minutes in a spectrophotometer at 37°C, and calculate the ΔOD per minute. The value of $\Delta OD/\text{min}$ becomes in the range of 0.05- 0.10.

Calculation :

$$\text{Uricase activity (U/ml)} = \frac{(A_{293\text{nm}}/\text{min Test} - A_{293\text{nm}}/\text{min Blank}) \times V_t \times df}{12.6 \times 1.0 \times V_s}$$

$$\text{Weight activity (U/mg)} = (\text{U/ml}) \times 1/C$$

V_t : Total volume (3.12ml)

V_s : Sample volume (0.02ml)

12.6 : Millimolar extinction coefficient of uric acid at 293nm

1.0 : Light path length (cm)

df : Dilution factor

C : Enzyme concentration in dissolution (mg/ml)



Fig. 1

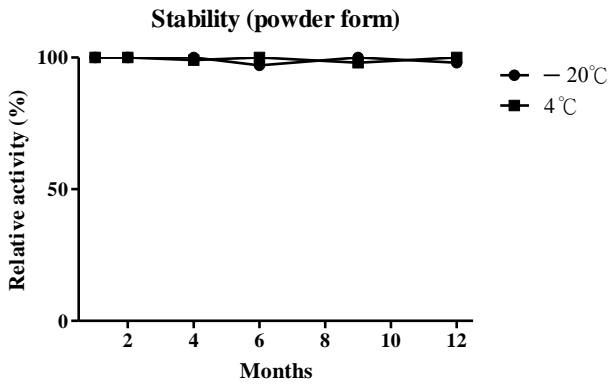


Fig. 2 (37°C treatment in 50 mM buffer)

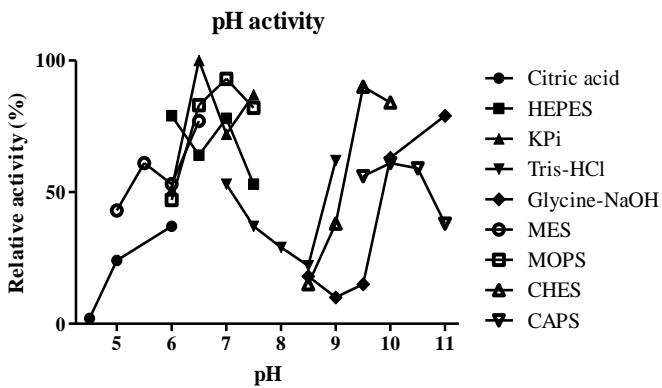


Fig. 3 (5 min in 20 mM Boric acid, pH9.0)

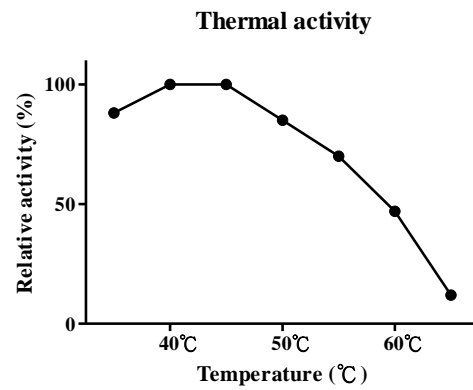


Fig. 4 (25°C 16 hr treatment in 50 mM buffer)

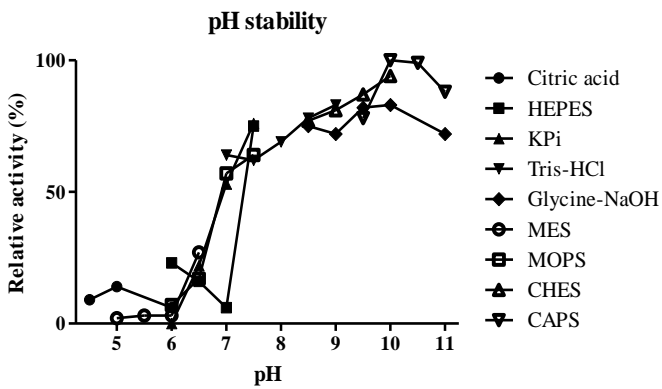


Fig. 5 (15 min in 20 mM Boric acid, pH9.0)

