

ENZYMES

Uricase (Recombinant)

ORIGIN *Candida utilis* gene expressed in *Escherichia coli*

CAT# URIC-70-1731
1.7.3.3

► SPECIFICATIONS

Appearance White to cream powder
Specific Activity >6 U/mg protein at 25°C

► ASSAY PRINCIPLE

Uricase catalyses the following reaction:



As uric acid degrades there is a decrease in absorbance which can be measured spectrophotometrically at 290nm.

► UNIT DEFINITION

One unit of activity is defined as the amount of enzyme that will transform of 1.0 micromole of substrate per minute at 25°C under standard assay method conditions.

► APPLICATION

Used in the enzymatic determination of uric acid.

► CHARACTERISTICS

Molecular Weight:	34kDa (SDS-PAGE)
K_m Value:	3.8 x 10 ⁻⁵ M
Optimum pH (Fig. 1):	pH 8.5
Optimum Temperature (Fig. 2):	55°C
pH Stability (Fig. 3):	7.6 to 10.0 (25°C for 1 week)
Thermal Stability (Fig. 4):	Stable at 55°C and below (pH 8.5 for 30 minutes)

FIGURE 1: OPTIMUM pH

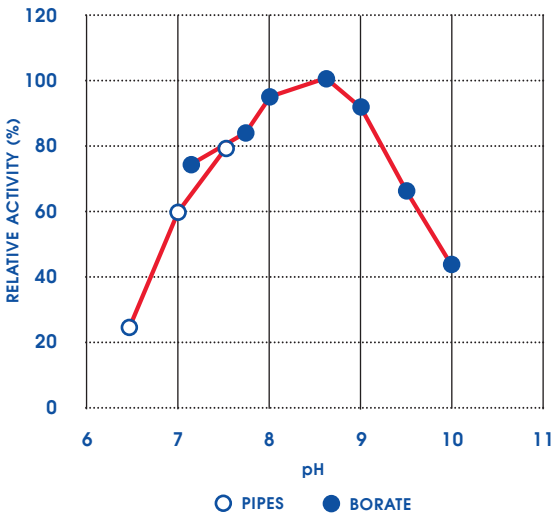


FIGURE 2: OPTIMUM TEMPERATURE

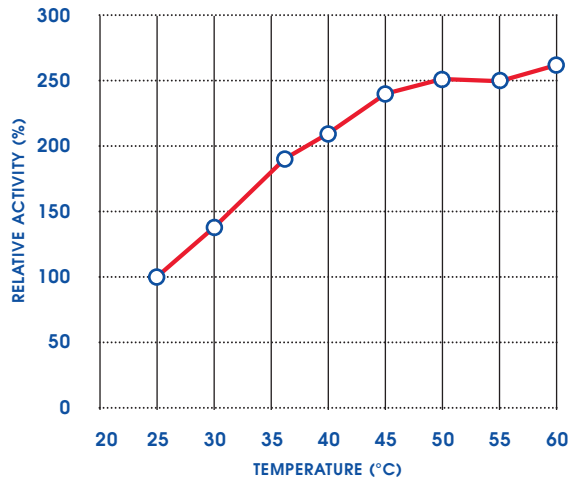


FIGURE 3: pH STABILITY (25°C FOR 1 WEEK)

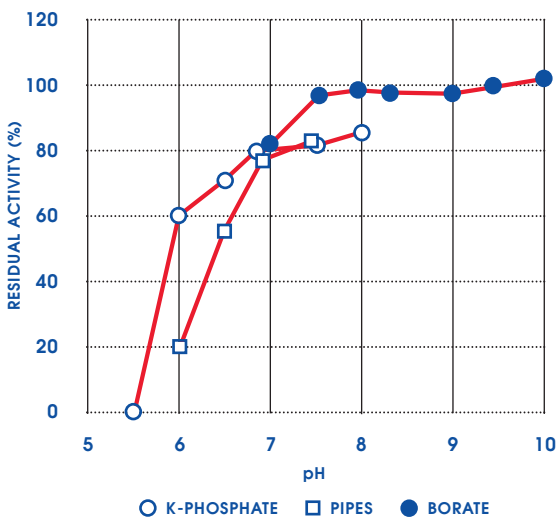


FIGURE 4: THERMAL STABILITY (pH 8.5 FOR 30 MINS.)

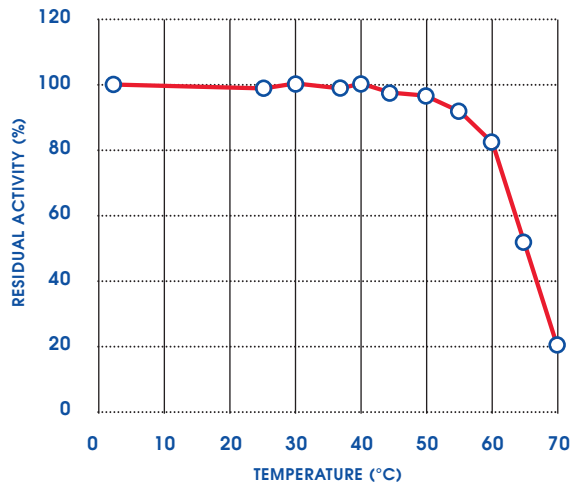


TABLE 1: THE EFFECT OF VARIOUS CHEMICALS ON URICASE

CHEMICAL	CONCENTRATION (mM)	RELATIVE ACTIVITY (%)	CHEMICAL	CONCENTRATION (mM)	RELATIVE ACTIVITY (%)
None	—	100	EDTA 3Na	5.0	101
MnCl ₂	2.0	92	Ascorbic acid	20 mg/dL	4
MgCl ₂	2.0	96	MIA	2.0	96
CuCl ₂	2.0	1	Triton X-100	0.1%	112
FeCl ₂	2.0	0	Brij 35	0.1%	112
ZnCl ₂	2.0	1	Tween 20	0.1%	112
CoCl ₂	2.0	85	SDS	0.1%	27
CaCl ₂	2.0	96			

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