

SPECIFICATION SHEET

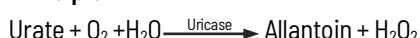
Product Name: Uricase
Catalog # UR01D1-E311H

Product Description: Uricase is a diagnostic grade reagent from a microorganism host. This enzyme is useful for enzymatic determination of uric acid in clinical analysis.

EC 1.7.3.3

Storage and Stability: Product can be stored at 2~8°C for transportation process up to ten days but long-term storage should be at -20°C.

Principle:



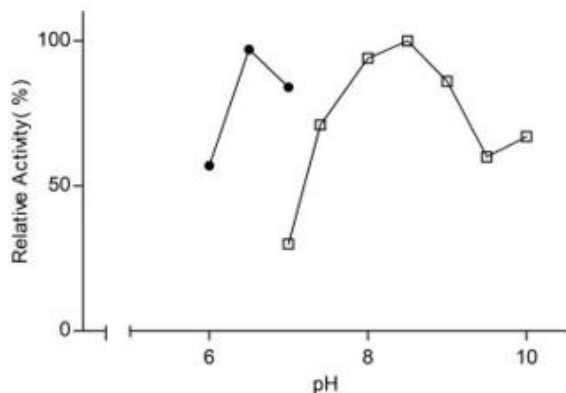
Unit Definition	: One unit causes the oxidation of one micromole of uric acid per minute at pH 8.5 at 25°C	
Appearance	: White amorphous powder, lyophilized	
Activity	: ≥4 U/mg solid	
Molecular Weight	: 34 kDa	
Contaminants	: Catalase	≤1.0 × 10 %
Stabilizers	: Borate, EDTA, nonionic detergents	
Isoelectric Point	: 8.4	
Michaelis Constant	: 5.4 × 10 ⁻⁵ M (uric acid)	
Inhibitors	: Fe ³⁺ , Cu ²⁺ , Ag ⁺ , Hg ²⁺ , NEM, ProClin-300, SDS	
Optimum pH	: 8.5	(Figure 1)
Optimum Temperature	: 50°C	(Figure 2)
pH Stability	: pH 6.0–10.5 (25°C, 20 hr)	(Figure 3)
Thermal Stability	: Below 60°C (pH 8.5, 10 min)	(Figure 4)
Effect of Various Chemicals	: (Table 1)	

Table 1. Effect of Various Chemicals on Uricase

The enzyme dissolved in 20 mM borate buffer, pH 8.5 containing 0.001% Triton X-100 and 1.0 mM EDTA was incubated with each chemical at 25°C for 1 hr.

Chemical	Conc. (mM)	Residual activity (%)	Chemical	Conc. (mM)	Residual activity (%)
None	—	100	BME	2	94
CaCl ₂	2	99	Hydroxylamine	2	91
MgSO ₄	2	110	EDTA	5	94
ZnSO ₄	2	99	NaF	20	93
NiCl ₂	2	103	NaN ₃	20	96
CoCl ₂	2	93	Borate	50	109
MnCl ₂	2	108	Proclin-300	0.045% (v/v)	61
FeCl ₃	2	57	SDS	0.05% (w/v)	42
CuSO ₄	2	0	Na-Cholate	0.1% (w/v)	103
AgNO ₃	2	2	Tween-20	0.1% (v/v)	101
HgSO ₄	2	0	Triton X-100	0.1% (v/v)	110
NEM	2	14	Span-20	0.1% (v/v)	103
IAA	2	104	Brij-35	0.1% (w/v)	98

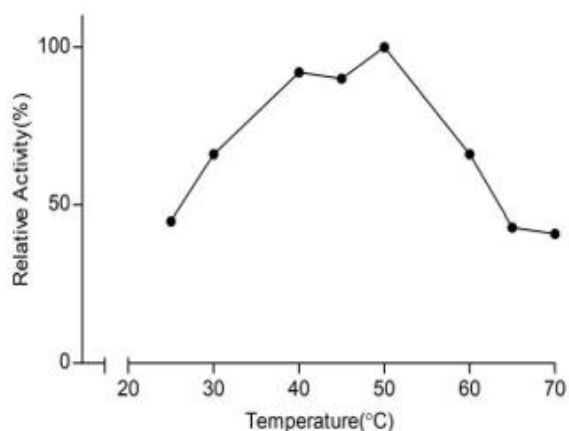
Fig.1. pH Activity



25°C in the following buffer solution:

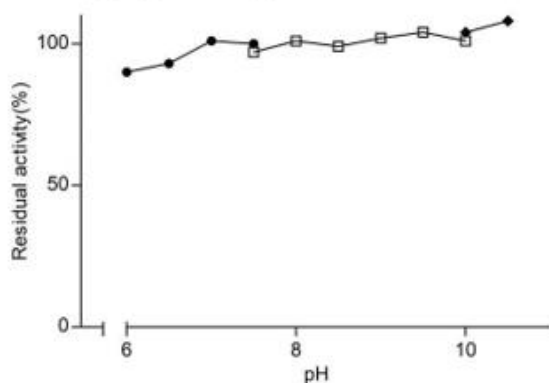
- 50mM K-phosphate buffer
- 20mM Borate buffer

Fig.2. Temperature Activity



in 20mM Borate buffer, pH 8.5

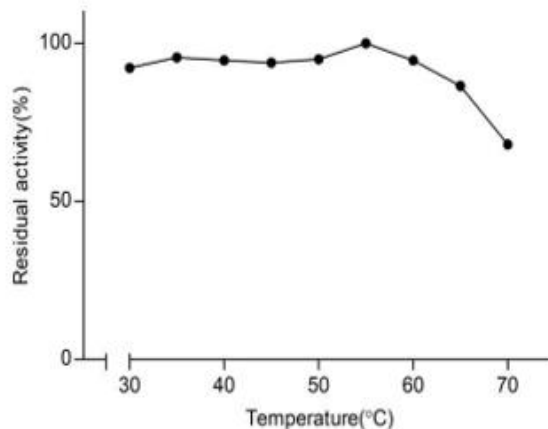
Fig.3. pH Stability



25°C, 20hr-treatment with following buffer solution:

- 100mM K-phosphate buffer
- 20mM Borate buffer
- ◆ 100mM Glycine-NaOH

Fig.4. Thermal Stability



15min- treatment with 20mM Borate buffer, pH8.5