

ENZYMES

BY

SORACHIM

Urease from Jack Bean

URH-201

SPECIFICATIONS

Name	Urea amidohydrolase
EC	3.5.1.5
Appearance	white amorphous powder lyophilized
Activity	Grade II, 100U/mg-solid or more
Contaminants	Asparaginase <math>< 2.0 \times 10^{-2}</math> % Arginase <math>< 2.0 \times 10^{-3}</math> % NH ₄ ⁺ <math>< 5.0 \times 10^{-4}</math> μg/U
Stabilizers	EDTA, glutathione, succinate, BSA
Stability	Stable at -20 °C for at least 12 months
Molecular weight	approx. 480 000
Isoelectric point	5.0 - 5.1
Michaelis constant	1.05×10 ⁻² M (Urea)
Structure	8 active sites with SH-groups per mole of the enzyme
Inhibitors	Heavy metal ions (Ag ⁺ Hg ²⁺ etc.)
Optimum pH	6.0
Optimum temperature	60 °C
pH Stability	pH 5.5 - 8.5 (30 °C, 17hr)
Thermal stability	below 50 °C, (pH 8.0, 60min)

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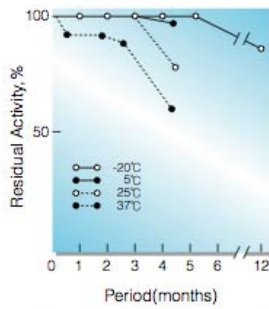


Fig.1. Stability (Powder form, Grade III)
(kept under dry conditions)

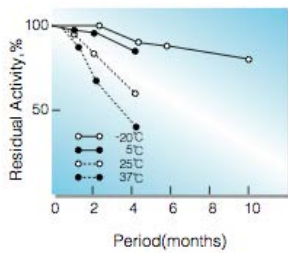


Fig.2. Stability (Powder form, Grade II)
(kept under dry conditions)

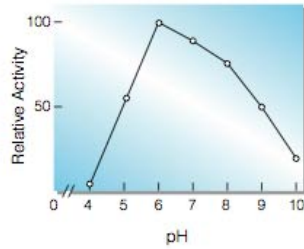


Fig.3. pH-Activity
[30°C in 10mM buffer solution: pH3.0-9.0
Veronal-CH₂COONa-HCl; pH9.0-11.0,
glycine-NaOH.

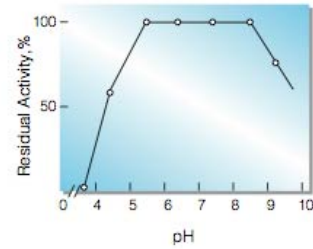


Fig.5. pH-Stability
[30°C, 17hr-treatment with 10mM buffer
solution: pH 3.0-9.0, Veronal-CH₂COONa-HCl;
[pH9.0-11.0: glycine-NaOH

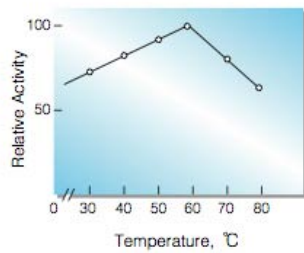


Fig.4. Temperature activity
(in 20mM phosphate buffer, pH7.0)

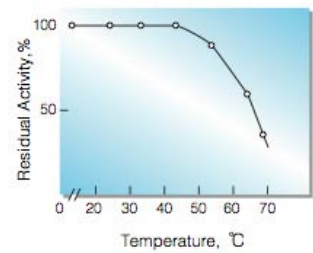


Fig.6. Thermal stability
(60min-treatment with 20mM phosphate
buffer, pH8.0.