

ENZYMES
BY

SORACHIM

Ascorbate Oxidase from Cucurbita sp.

ASO-311

SPECIFICATIONS

Product name:	L-Ascorbate: oxygen oxidoreductase
EC	1.10.3.3
Appearance:	Light blue amorphous powder, lyophilized
Activity:	Grade III, 200 U/mg solid or more
Contaminants:	Catalase:< 0.1 % Phosphatase:< 0.02%
Stability:	Stable at -20 °C for at least 12 months
Stabilizers:	Bovine serum albumin, borax, basic amino acids
Molecular weight:	140,000
Isoelectric point:	5.5 ± 0.2
Michaelis constant:	2.7 x 10 ⁻⁴ M (Ascorbate)
Inhibitors:	Cyanide, Na ₂ S, diethyldithiocarbamate (Na)
Optimum pH:	5.5 - 6.5
Optimum temperature:	approx. 45 °C
pH Stability:	pH 6.0 - 10.0 (25 °C, 20hr)
Thermal stability:	Below 45 °C (pH 7.0, 30 min)
Substrate specificity:	The enzyme oxidizes ascorbic acid and several ascorbic acid derivatives.

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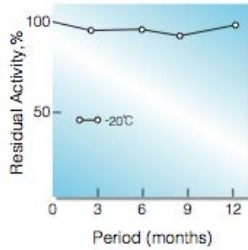


Fig.1. Stability (Powder form)
(kept under dry conditions)

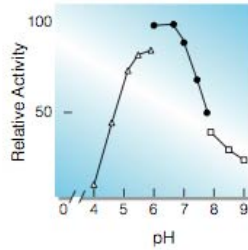


Fig.2. pH-Activity
[30°C in 0.1 M buffer solution: pH4.0-6.0, acetate; pH6.0-8.0, phosphate pH8.0-9.0, borate]

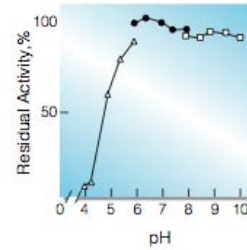


Fig.4. pH-Stability
[25°C, 20hr-treatment with 0.1M buffer solution: pH4.0-6.0, acetate; pH6.0-8.0, phosphate; pH8.0-10.0, borate]

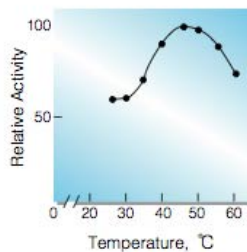


Fig.3. Temperature activity
(in 0.33M phosphate buffer, pH5.6)

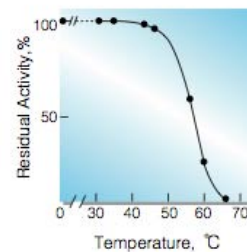


Fig.5. Thermal stability
[30min-treatment with 10mM phosphate buffer, pH 7.0(contg. 0.2% BSA) enzyme concn.: 15U/ml]