

ENZYMES

Cholesterol Esterase

ORIGIN *Pseudomonas sp.*

CAT# CHES-70-1041

EC# 3.1.1.13

SPECIFICATIONS

Appearance	Off-white to pale brown free flowing powder
Activity	>10 U/mg powder at 37°C
Additive	BSA

ASSAY PRINCIPLE

Cholesterol Esterase (CE) catalyses the following reaction:



The appearance of quinoneimine dye formed by coupling with 4-aminoantipyrine and phenol is measured at 500 nm spectrophotometrically.

UNIT DEFINITION

One unit of activity is defined as the amount of enzyme that will catalyse the production of 1.0 micromole of cholesterol per minute at 37°C under standard assay method conditions.

APPLICATION

Used in the formulation of Cholesterol testing reagents or in biosensor applications.

CHARACTERISTICS

Molecular Weight:	30kDa (SDS-PAGE)
Isoelectric Point:	6.0
K_m value:	3.0 x 10 ⁻⁵ M
Optimum pH (Fig. 1):	7.0
Optimum Temperature (Fig. 2):	37°C
pH Stability (Fig. 3):	5.0 to 9.0 (37°C for 60 hours)
Thermal Stability (Fig. 4):	Stable at 50°C and below (pH 7.0 for 10 minutes)
Inhibitor:	Ag ⁺ , Hg ²⁺
Activator:	Triton X-100
Stabilisers:	Mg ²⁺ , Ca ²⁺

FIGURE 1: OPTIMUM pH

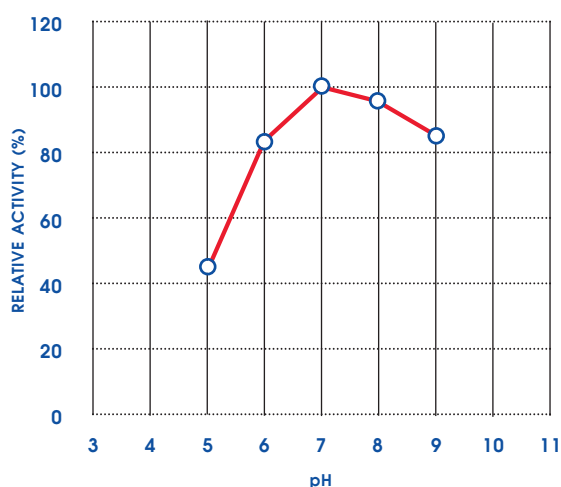


FIGURE 2: OPTIMUM TEMPERATURE

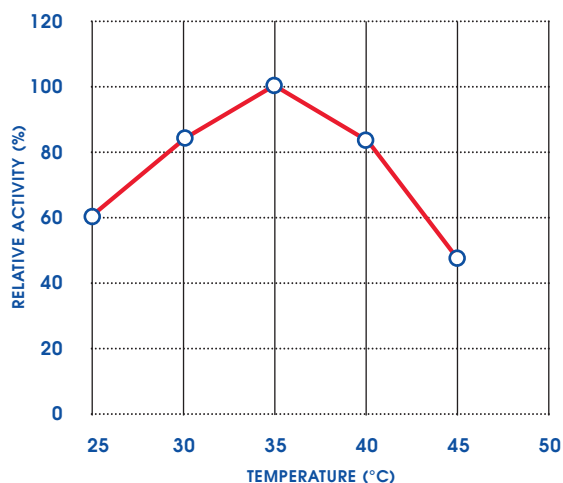


FIGURE 3: pH STABILITY

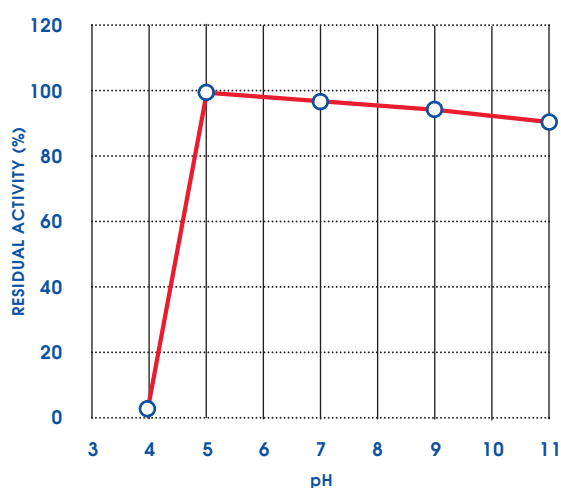


FIGURE 4: THERMAL STABILITY

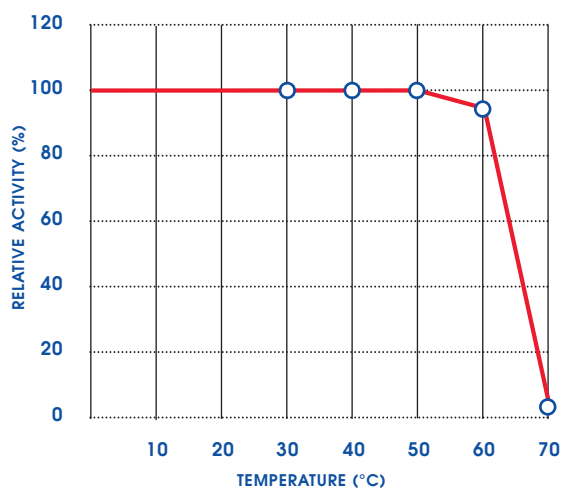


TABLE 1: SUBSTRATE SPECIFICITY OF CHOLESTEROL ESTERASE

CHOLESTEROL ESTER	RELATIVE ACTIVITY (%)	CHOLESTEROL ESTER	RELATIVE ACTIVITY (%)
Acetate (2:0)	6%	Myristate (14:0)	84%
Butyrate (4:0)	9%	Palmitate (16:0)	94%
Caprate (10:0)	28%	Oleate (18:0)	90%
Laurinate (12:0)	80%	Linoleate (18:2)	100%

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