

Cholesterol Dehydrogenase

Catalogue No. CHDE-70-1241

ORIGIN

Nocardia sp.

SPECIFICATIONS

Appearance Freeze dried powder
 Activity ≥5 U/mg powder

CHARACTERISTICS

Molecular weight 37kDa (SDS-PAGE)
 Isoelectric point 4.5
 K_m values:
 o Cholesterol 1.5 x 10⁻⁴M
 o NAD⁺ 2.3 x 10⁻⁴M
 Optimum pH (**Fig. 1**) Above 10.0
 Optimum temp (**Fig. 2**) 30°C
 pH stability (**Fig. 3**) 6.5 - 7.5 (37°C, 15 min.)
 Thermal stability (**Fig. 4**) Below 35°C (pH 7.0, 5 min.)
 Inhibitor Ag⁺
 Activator Triton X-100
 Substrate specificity See Table 1
 Effect of certain chemicals See Table 2
 Lyophilised stability 2 years at -20°C

FIG.1 pH Optimum

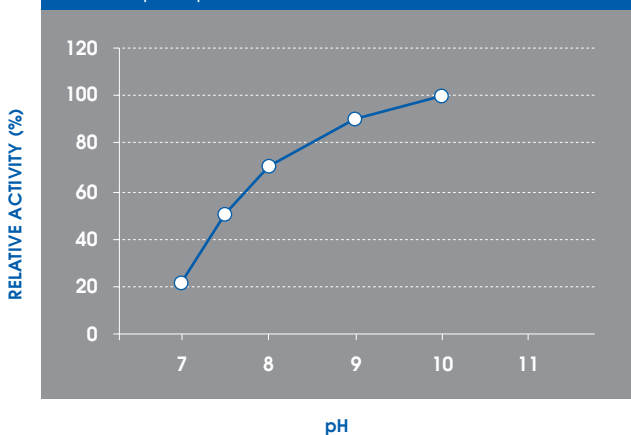


FIG.2 Temperature Optimum

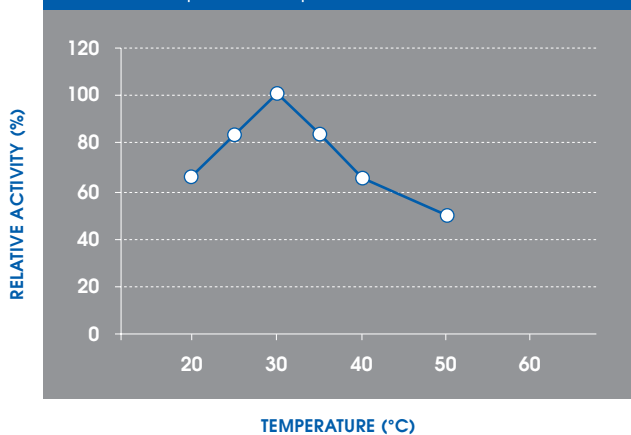


FIG.3 pH Stability (37°C, 15 min.)

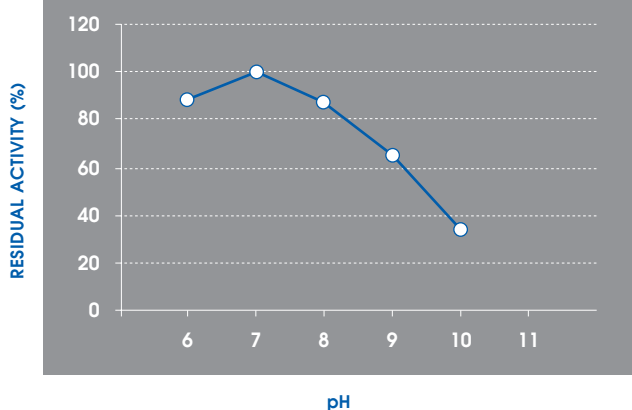


FIG.4 Thermal Stability (pH 7.0, 15 min.)

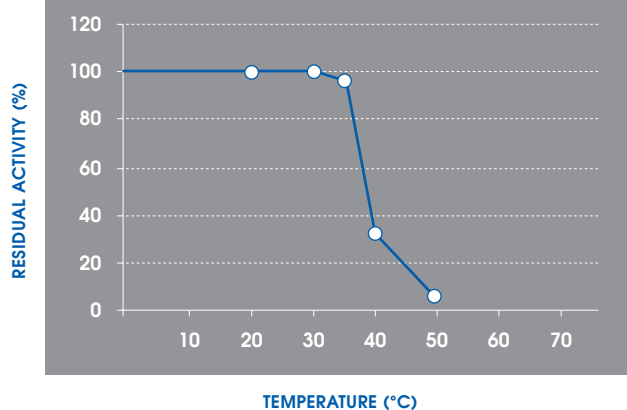


TABLE 1 The substrate specificity of Cholesterol Dehydrogenase

Substrate	Relative Activity (%)	Substrate	Relative Activity (%)
Cholesterol	100%	Dehydroisoandrosterone	0%
β-Sitosterol	52%	Cholic acid	0%
Ergosterol	50%	Testosterone	0%
Stigmasterol	30%	NAD	100%
Pregnenolone	14%	NADP	0%
Lanosterol	0%		

TABLE 2 The effect of various chemicals on Cholesterol dehydrogenase

Chemical	Concentration (mM)	Relative Activity (%)	Chemical	Concentration (mM)	Relative Activity (%)
None	—	100%	LiCl ₂	1.0	96%
MnCl ₂	1.0	52%	NiCl ₂	1.0	96%
MgCl ₂	1.0	50%	ZnCl ₂	1.0	48%
CaCl ₂	1.0	14%	AgNO ₃	1.0	0%
FeCl ₂	1.0	0%			

ASSAY PRINCIPLE

Cholesterol Dehydrogenase catalyses the following reaction:



The appearance of NADH is measured at 340nm by spectrophotometry.

