

# Cholesterol Dehydrogenase

Catalogue No. CHDE-70-1241

## ORIGIN

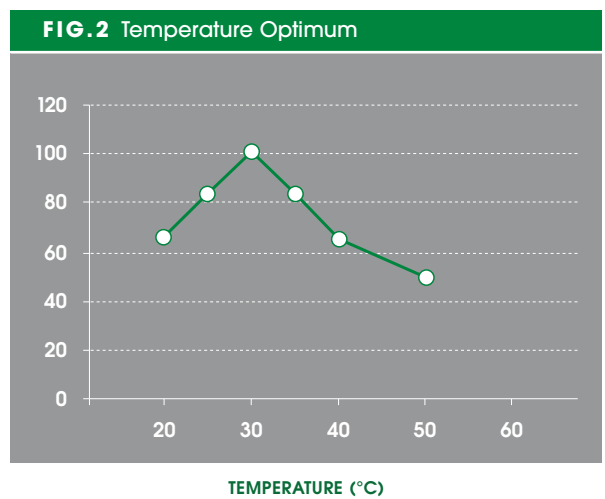
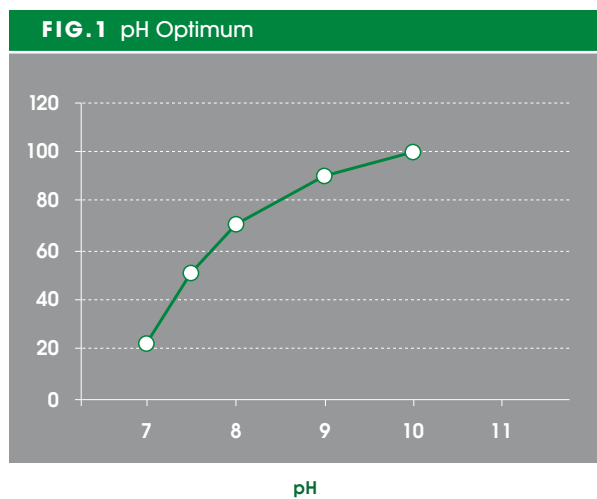
*Nocardia sp.*

## SPECIFICATIONS

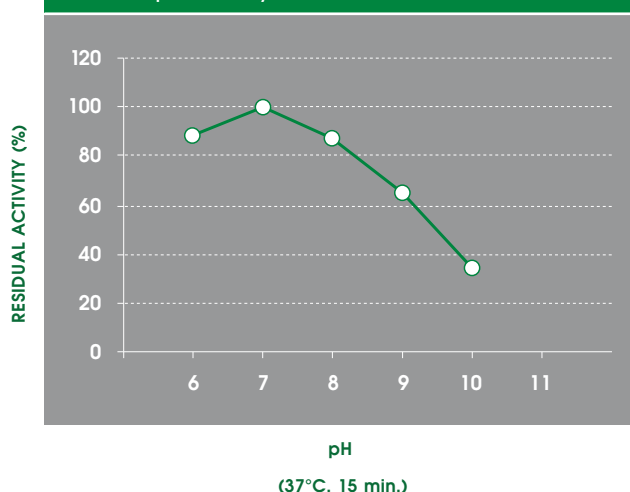
Appearance . . . . . Freeze dried powder  
 Activity . . . . .  $\geq 5$  U/mg powder

## CHARACTERISTICS

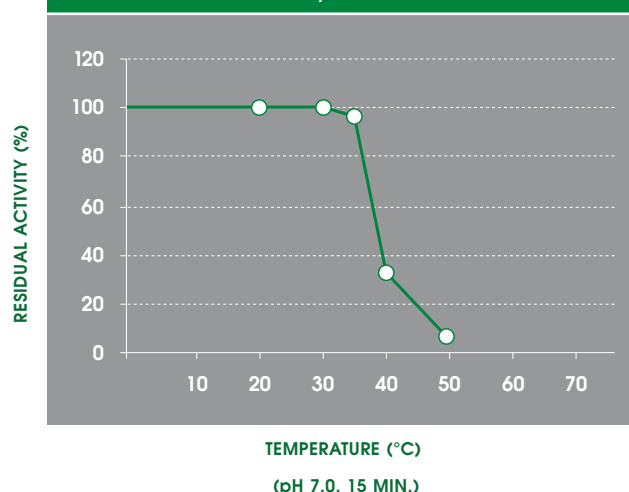
Molecular weight . . . . . 37kDa (SDS-PAGE)  
 Isoelectric point . . . . . 4.5  
 K<sub>m</sub> values:  
     o Cholesterol . . . . .  $1.5 \times 10^{-4}$ M  
     o NAD<sup>+</sup> . . . . .  $2.3 \times 10^{-4}$ M  
 Optimum pH (**Fig. 1**) . . . . . Above 10.0  
 Optimum temp (**Fig. 2**) . . . . . 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<sup>+</sup>  
 Activator . . . . . Triton X-100  
 Substrate specificity . . . . . See Table 1  
 Effect of certain chemicals . . . . . See Table 2  
 Lyophilised stability . . . . . 2 years at -20°C



**FIG. 3** pH Stability



**FIG. 4** Thermal Stability



**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 <sub>2</sub>	1.0	96 %
MnCl <sub>2</sub>	1.0	99 %	NiCl <sub>2</sub>	1.0	96 %
MgCl <sub>2</sub>	1.0	99 %	ZnCl <sub>2</sub>	1.0	48 %
CaCl <sub>2</sub>	1.0	93 %	AgNO <sub>3</sub>	1.0	0 %
FeCl <sub>2</sub>	1.0	100 %			

### ASSAY PRINCIPLE

Cholesterol Dehydrogenase catalyses the following reaction:



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

