

Glucose Dehydrogenase (NAD Dependent)

Catalogue No. GLDE-70-1191 and 70-1191-01

ORIGIN

Bacillus sp.

SPECIFICATIONS

Appearance	Freeze dried powder
Activity	≥ 70u/mg powder at 25°C
Contaminants	
o Lactate dehydrogenase (Pyruvate)	≤ 0.002%
o Lactate dehydrogenase (Lactate)	≤ 0.002%
o NADH oxidase	≤ 0.002%

CHARACTERISTICS

Molecular weight	105kDa (gel filtration)
Isoelectric point	4.5
K _m values	
o Glucose	0.8 x 10 ⁻² M
o NAD	1.5 x 10 ⁻⁴ M
o NADP	4.3 x 10 ⁻⁵ M
Optimum pH (Fig. 1)	8.0 (phosphate buffer)
Optimum temp (Fig. 2)	Above 50°C
pH stability (Fig. 3)	5.0 - 8.0 (40°C, 90 min.)
Thermal stability (Fig. 4)	Below 80°C (pH 7.0, 50 min.)
Inhibitors	Ag ⁺ , Hg ²⁺
Stabilisers	Inorganic salts
Substrate specificity	See Table 1
Lyophilised stability	2 years desiccated at 5°C or below

FIG.1 pH Optimum

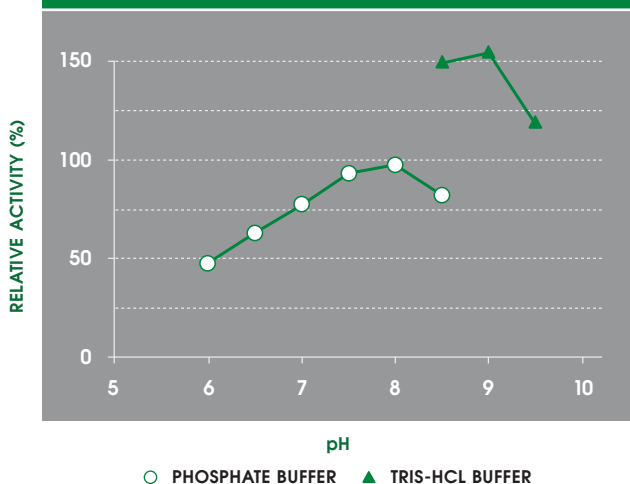


FIG.2 Temperature Optimum

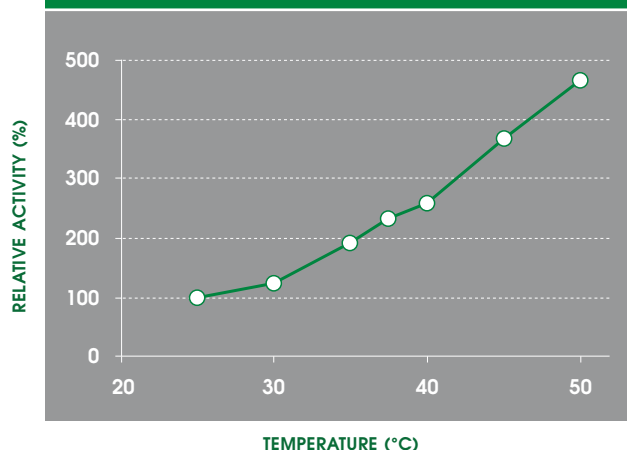


FIG.3 pH Stability (40°C, 90 min.)

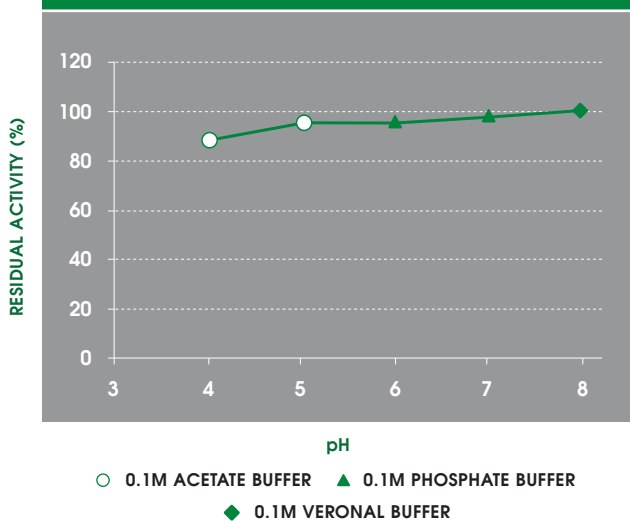


FIG.4 Thermal Stability (0.01M Phosphate buffer, pH 7.0, 80°C)

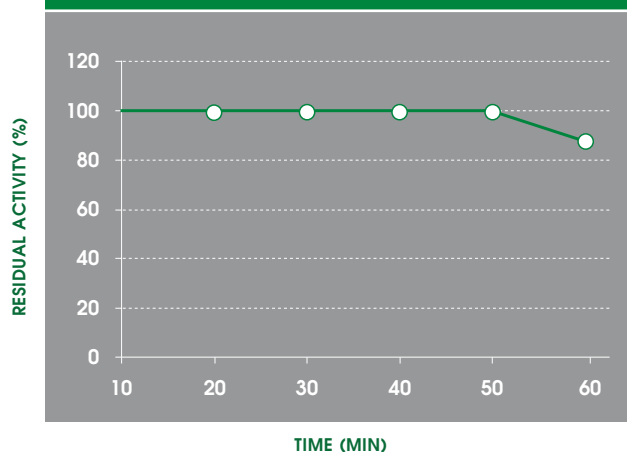


TABLE 1 The Substrate Specificity of Glucose Dehydrogenase (30mM Sugar Concentration)

Sugar	% of D-Glucose activity	Sugar	% of D-Glucose activity
D-Glucose	100	D-Sorbitol	<0.1
D-Xylose	3	D-Sucrose	<0.1
D-Mannose	1	D-Ribose	<0.1
D-Galactose	0.5	D-Trehalose	<0.1
D-Maltose	0.5	D-Mannitol	<0.1
D-Lactose	0.3	L-glucose	<0.1
D-Fructose	0.3		

