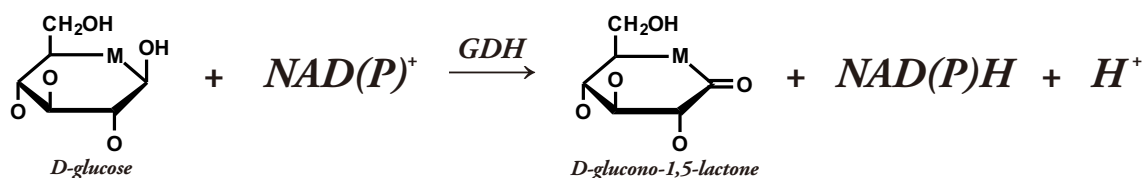


GLUCOSE DEHYDROGENASE

(NAD(P)⁺-DEPENDENT)

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50047
Appearance:	Light yellow amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 1.1.1.47
CAS Number:	9028-53-9
Storage temperature:	-20°C
Specific activity:	≥ 600U/mg protein
Unit definition:	One unit oxidate one micromole of glucose per minute at pH 8.0 at 37°C.

PROPERTIES

Molecular weight:	29KD (SDS-PAGE)	
Isoelectric point:	6.5	
Michaelis constant:	9.2 × 10 ⁻³ M(D-Glucose); 8.6 × 10 ⁻⁵ M(NAD ⁺)	
Optimum pH:	9.0	{Fig. 1}
Optimum temperature:	55°C	{Fig. 3}
pH Stability:	6.0-9.0 (25°C, 24hr)	{Fig. 2}
Thermal stability:	< 50°C (pH 8.0, 30min)	{Fig. 4}
Inhibitors:	NEM, SDS	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on GDH (NAD-dependent)

[The enzyme dissolved in 50mM Tris-HCl buffer with 0.1% BSA, pH7.5 (10U/ml) was incubated with each chemical at 30°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	96%
CoCl ₂	2.0	97%
CuSO ₄	2.0	94%
FeCl ₃	2.0	103%
MgSO ₄	2.0	97%
MnSO ₄	2.0	99%
NiCl ₂	2.0	94%
ZnSO ₄	2.0	91%

Chemical	Concn. (mM)	Residual activity
BME	2.0	96%
NEM	2.0	59%
EDTA	5.0	94%
NaN ₃	20.0	96%
Na-cholate	0.10%	97%
SDS	0.05%	44%
Triton X-100	0.10%	96%
Tween 20	0.10%	96%
Boric Acid-Borax	2.0	102%

Fig. 1 pH Activity

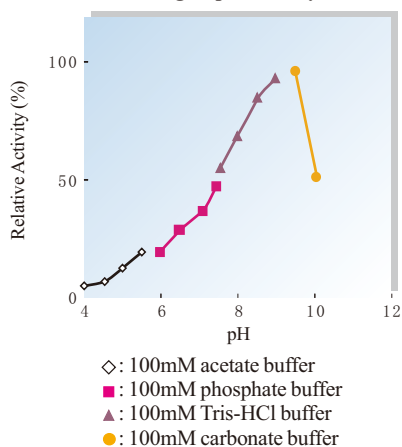


Fig. 3 Temperature activity

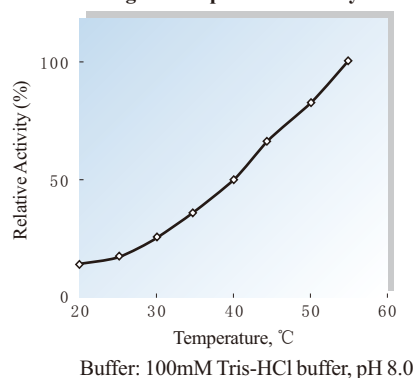


Fig. 2 pH Stability

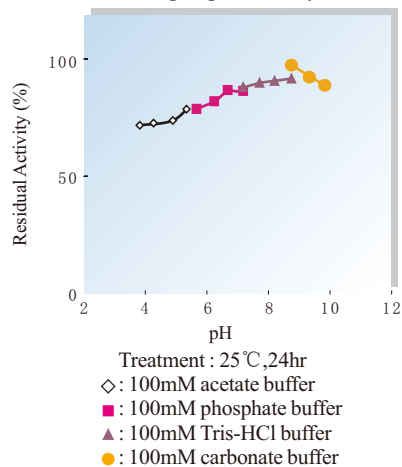


Fig. 4 Thermal stability

