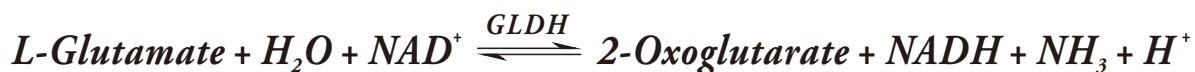


GLUTAMATE DEHYDROGENASE

L-Glutamate:NAD⁺ oxidoreductase

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	SDZ500140
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 1.4.1.2
CAS Number:	9001-46-1
Storage temperature:	-20°C
Specific activity:	≥ 400U/mg protein
Unit definition:	One unit will convert one micromole of α -ketoglutarate to L-glutamate per min at pH 8.3 at 30°C.

PROPERTIES

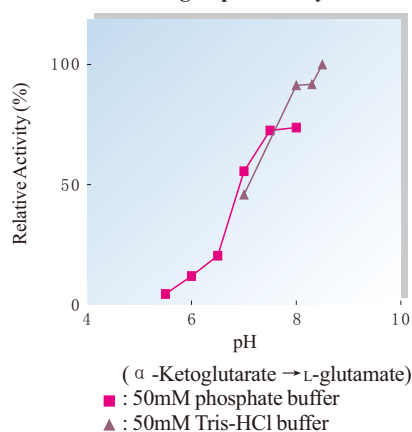
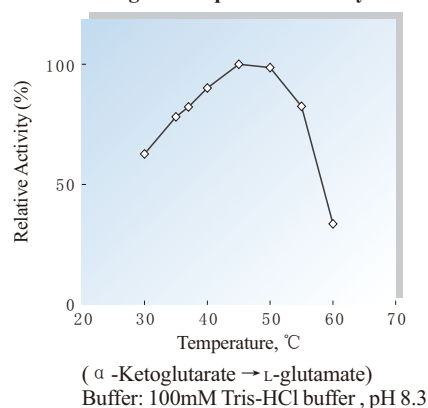
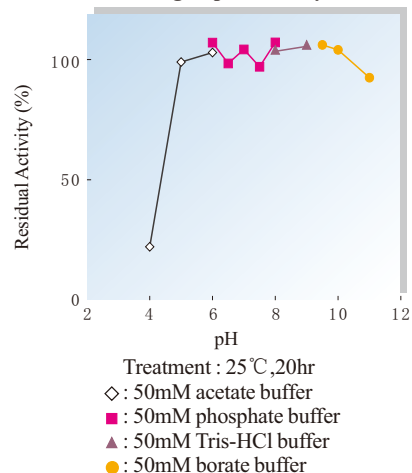
Molecular weight:	260 kDa (Gel filtration)	
Isoelectric point:	5.6	
Michaelis constant:	9.5 × 10 ⁻³ M (NH ₃)	
	5.0 × 10 ⁻³ M (α -Ketoglutarate)	
	8.4 × 10 ⁻⁵ M (NADH)	
Optimum pH:	8.5 (α -KG → L-Glu)	{Fig. 1}
Optimum temperature:	45°C	{Fig. 3}
pH Stability:	5.0~11.0 (25°C, 20hr)	{Fig. 2}
Thermal stability:	< 60°C (pH 8.3, 10min)	{Fig. 4}
Inhibitors:	Co ²⁺ , Fe ³⁺ , NEM, Proclin, SDS	
Effect of various chemicals:		{Table 1}

Table 1.**Effect of Various Chemicals on GLDH**

[The enzyme dissolved in 100mM Tris-HCl buffer, pH 8.0 (10U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	97%
CoCl ₂	2.0	82%
CuSO ₄	2.0	106%
FeCl ₃	2.0	19%
MgSO ₄	2.0	97%
MnSO ₄	2.0	99%
NiCl ₂	2.0	86%
ZnSO ₄	2.0	86%
BME	2.0	106%

Chemical	Concn. (mM)	Residual activity
NEM	2.0	78%
EDTA	5.0	93%
NaN ₃	20.0	98%
Proclin	0.045%	25%
Na-cholate	0.10%	104%
SDS	0.05%	3%
Triton X-100	0.10%	110%
Tween 20	0.10%	108%
Boric Acid-Borax	2.0	90%

Fig. 1 pH Activity**Fig. 3 Temperature activity****Fig. 2 pH Stability****Fig. 4 Thermal stability**