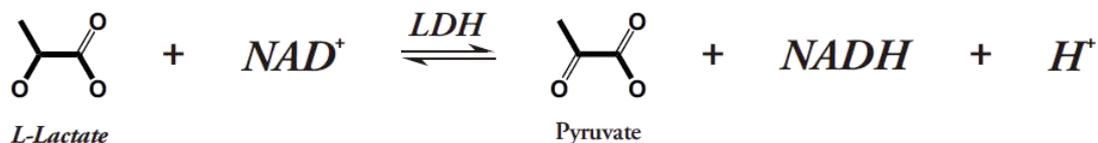


Recombinant L-Lactate Dehydrogenase (L-LDH)

L196994

L-Lactate Dehydrogenase (L-LDH) is an oxidoreductase enzyme in the anaerobic metabolic pathway and the gluconeogenic pathway, and is found in a wide range of tissues in the body.

Reaction



Stability and storage

Store at -20°C (2 years). Avoid freeze/thaw cycle. Store in the dark. Desiccated.

Product description

Appearance	White amorphous powder
Source	Microorganism
Enzyme Commission Number	EC 1.1.1.27
CAS Number	9001-60-9
Storage temperature	-20°C
Specific activity	≥ 300U/mg protein
Unit definition	One unit will convert one micromole of pyruvate to L-lactate per min at pH 7.4 at 25°C.

Properties

Stability:	Stable at -20°C for at least two years	
Molecular weight:	38 kDa (SDS-PAGE)	
Isoelectric point:	6.2	
Michaelis constant:	1.3×10 ⁻⁴ M (Pyruvate) 4.0×10 ⁻⁶ M (NADH)	
Optimum pH:	6.5~7.5	{Fig. 1}
Optimum temperature:	40°C~50°C	{Fig. 3}
pH Stability:	4.5~10.0 (37°C, 1hr)	{Fig. 2}
Thermal stability:	< 55°C (pH 7.4, 15min)	{Fig. 4}
Inhibitors:	Co ²⁺ , Cu ²⁺ , Fe ³⁺ , Zn ²⁺ , NEM, Proclin, SDS	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on L-LDH

[The enzyme dissolved in 50mM Tris-HCl buffer, pH 7.5 (20U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn.(mM)	Residual activity
None	-	100%
CaCl ₂	2.0	101%
CoCl ₂	2.0	50%
CuSO ₄	2.0	0%
FeCl ₃	2.0	27%
MgSO ₄	2.0	94%
MnSO ₄	2.0	96%
NiCl ₂	2.0	78%
ZnSO ₄	2.0	0%
K ₄ Fe(CN) ₆	2.0	98%

Chemical	Concn.(mM)	Residual activity
BME	2.0	98%
NEM	2.0	79%
EDTA	5.0	102%
NaN ₃	20.0	101%
Proclin	0.045%	58%
Na-cholate	0.10%	109%
SDS	0.05%	0%
Triton X-100	0.10%	113%
Tween 20	0.10%	115%

Fig. 1 pH Activity

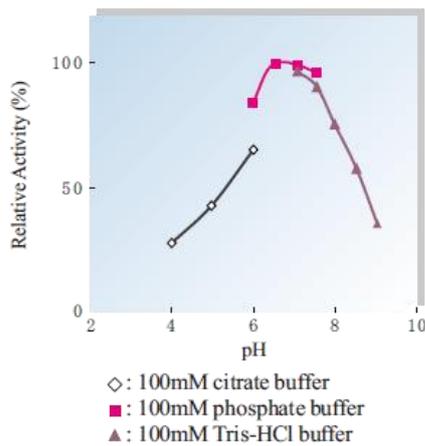


Fig. 3 Temperature activity

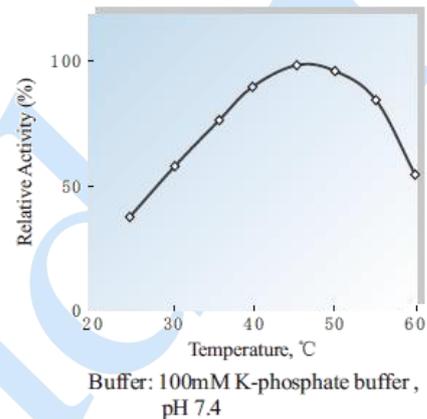


Fig. 2 pH Stability

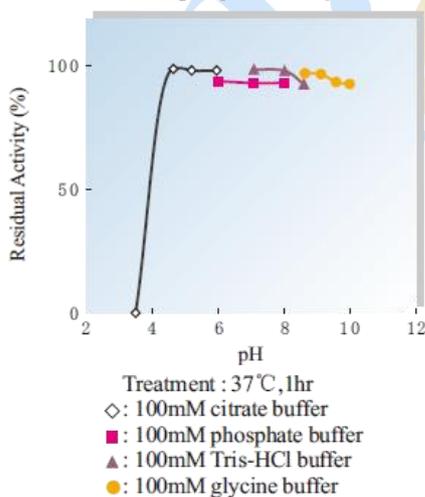


Fig. 4 Thermal stability

