

We offer various packaging (protein concentration, activity, etc.) if necessary.

## Data sheet

Enzyme ; **Malate dehydrogenase (Decarboxylating)**

Code ; MDH-73-01

Lot No. ;

Protein conc. ; mg/ml

Volume ; ml

Form ; 50 mM Tris-HCl (pH 8.0), 50 mM NaCl

Storage ; -20 °C

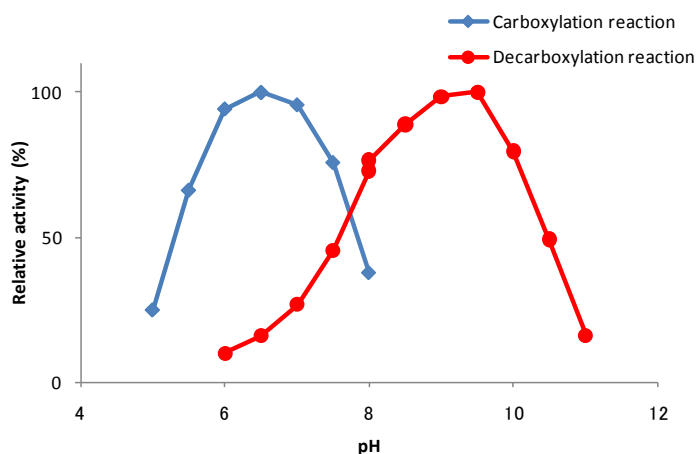
Activity ; U/ml

Notes ; For research use only.

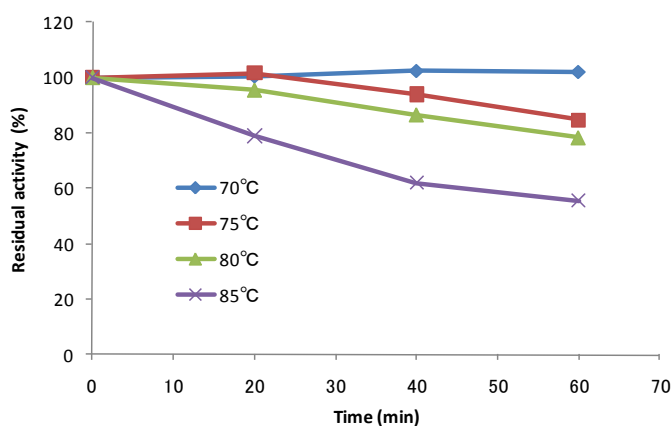
### Activity measurement

Reaction mix (50 mM PIPES-KOH (pH 6.5), 10 mM Pyruvic acid, 0.3 mM NADH, 10 mM NaHCO<sub>3</sub>, 10 mM MgCl<sub>2</sub> and appropriate amount of the enzyme) was incubated at 37 °C and A<sub>340</sub> was monitored. One unit is defined as the amount of the enzyme oxidizing 1 μmol of NADH ( $\epsilon_{340}=6.22 \text{ mM}^{-1} \text{ cm}^{-1}$ ) per 1 minute using Pyruvic acid as a substrate.

### pH profile

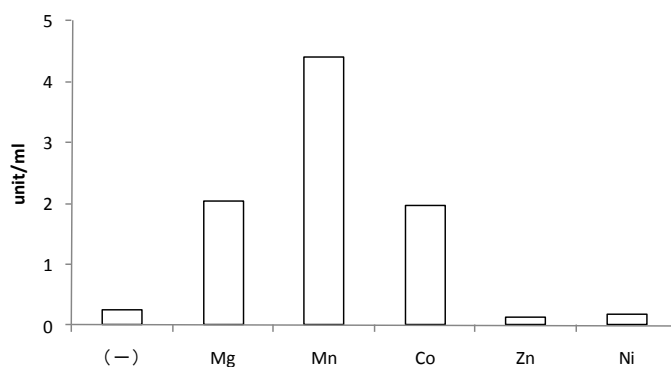


### Thermostability

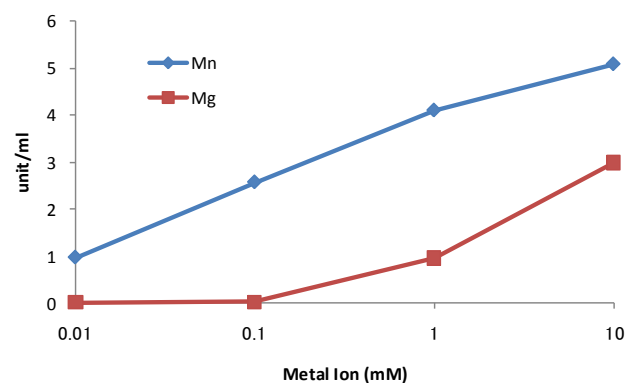


### Effect of metal ions on the activity

#### (a) Divalent metal ion specificity



#### (b) Concentration dependence



### Kinetic parameters

#### (a) Carboxylation reaction ( $K_m$ @ 37 °C, pH 6.5)

Pyruvic acid: 0.89 mM,  $\text{NaHCO}_3$ : 0.83 mM, NADH: 0.042 mM

#### (b) Decarboxylation reaction ( $K_m$ @ 37 °C, pH 9.5)

L-Malic acid: 0.14 mM, D-Malic acid: 3.6 mM,  $\text{NAD}^+$ : 0.12 mM