

## D-3-Hydroxybutyrate dehydrogenase, Enzyme Activity

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| Catalog      | Unit  |
|--------------|-------|
| TBP0027-100U | 100 U |
| TBP0027-500U | 500 U |

### Preparation and Specification

Appearance: White amorphous powder, lyophilized

Activity: Grade III 100U/mg-solid or more

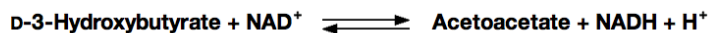
Contaminants: Malate dehydrogenase  $\leq 2.0 \times 10^{-3}\%$

Lactate dehydrogenase  $\leq 2.0 \times 10^{-3}\%$

NADH oxidase  $\leq 2.0 \times 10^{-3}\%$

Stabilizers: Sucrose, mannitol, BSA

**(R)-3-Hydroxybutanoate : NAD<sup>+</sup> oxidoreductase (EC 1.1.1.30)<sup>1-5</sup>**



### Properties

Stability: Stable at -20°C for at least Two years

Molecular weight: approx. 130,000 (by gel filtration)

Isoelectric point: 5.6±0.1

Michaelis constants:  $4.2 \times 10^{-4}\text{M}$  (25°C, pH8.3),  $7.0 \times 10^{-4}\text{M}$  (37°C, pH8.3)(D-3-Hydroxybutyrate)

$4.9 \times 10^{-5}\text{M}$  (25°C, pH8.3),  $7.2 \times 10^{-5}\text{M}$  (37°C, pH8.3)(NAD<sup>+</sup>)

$8.1 \times 10^{-5}\text{M}$  (25°C, pH7.1),  $2.4 \times 10^{-4}\text{M}$  (37°C, pH7.1)(Acetoacetate)

$8.4 \times 10^{-6}\text{M}$  (25°C, pH7.1),  $1.5 \times 10^{-5}\text{M}$  (37°C, pH7.1)(NADH)

Inhibitors: PCMB, MIA, IAA, Ag<sup>+</sup>, Hg<sup>++</sup>, SDS, DAC

Optimum pH: 8.3

Optimum temperature: 55°C

pH Stability: pH 5.0-8.5 (25°C, 20hr)

Thermal stability: below 40°C (pH 6.5, 15min)

### Applications

This enzyme is useful for enzymatic determination of ketone bodies (D-3-hydroxybutyrate and acetoacetate) in clinical analysis.

For research use only