LEADGENE
LEADGENE BIOMEDICAL, INC.

Datasheet

# Glycerol Dehydrogenase (GlyDH)

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|---|---|
| Catalog Number | LDG0020RG |
| Package | Customized package |

For full product information, images and publications, please visit our website.

## Overview

### Description

Glycerol dehydrogenase is an enzyme that catalyzes the oxidation of glycerol to dihydroxyacetone, using NAD+ as a cofactor, which is reduced to NADH in the process. This enzyme plays a key role in the metabolism of glycerol and is involved in pathways such as gluconeogenesis and lipid metabolism. Glycerol dehydrogenase is utilized in various industrial applications, including the production of dihydroxyacetone for cosmetic and pharmaceutical products.

## Specifications

### Expression system

Escherichia coli

### Activity

≥40 U/mg

### Unit Definition

One unit is defined as the formation of one micromole of NADH per minute at 25°C under below conditions. (0.1 M Carbonate buffer pH 11, 0.1 M Glycerol, 1 mM NAD+ and 33 mM Ammonium sulfate)

### Form

Lyophilized (Light brown amorphous powder)

## Instruction

### Reconstitution

It is recommended to weight 50 mg of lyophilized powder, reconstitute in 250 µL double-distilled water directly (final activity is 12 U/ µL), and incubate the solution for at least 10 mins with gently pipetting to ensure sufficient re-dissolved.

### Shipping

The product is shipped with polar packs. Upon receipt, store it immediately at -20°C or lower for long term storage.


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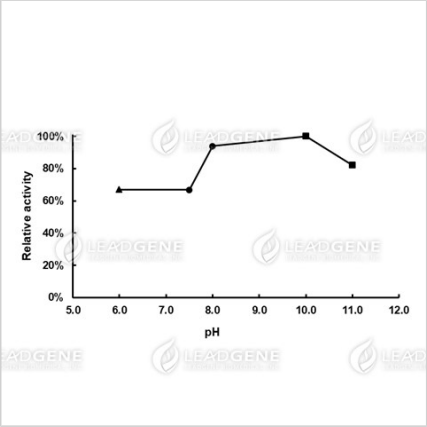
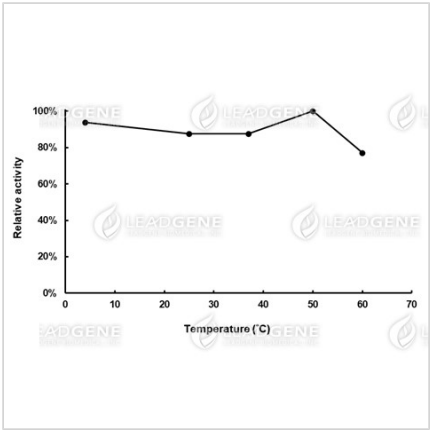
### Stability & Storage

This product is stable at -20°C for long-term storage under sterile conditions.
Avoid repeated free-thaw cycles.

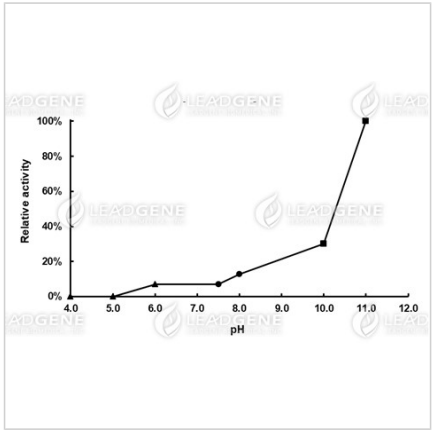
## Image




pH stability of Glycerol dehydrogenase.
The enzyme powder was reconstituted by double-distilled water and treated with different pH buffer condition for 20 hours at 25°C. pH 6.0, 0.1 M Sodium citrate buffer; pH 7.5-8.0, 0.1 M Potassium phosphate buffer; pH 10.0-11.0, 0.1 M Carbonate-bicarbonate buffer.




Thermal stability of Glycerol dehydrogenase. The enzyme powder was reconstituted by double-distilled water and treated with different temperature for 15 minutes. Final concentration: 16 U/ mL




pH activity of Glycerol dehydrogenase. The buffer conditions with various pH values were used in the reaction at 25°C. pH 4.0-6.0, 0.1 M Sodium citrate buffer; pH 7.5-8.0, 0.1 M Potassium phosphate buffer; pH 10.0-11.0, 0.1 M Carbonate-bicarbonate buffer.

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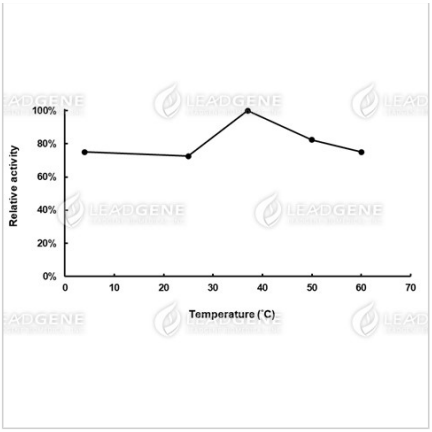


Temperature activity of Glycerol dehydrogenase.
The enzyme reactions in 0.1 M Carbonate-bicarbonate buffer, pH 11.0, were carried out under different temperature.

**Disclaimer :** For Research Use or Further Manufacturing Only.

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