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Ver.260401

# **Lactate dehydrogenase (LDH) Assay Kit**

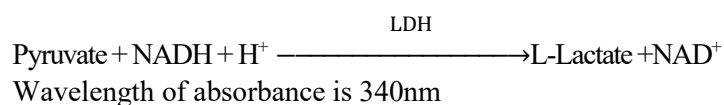
BC6603-01 (30Tests/30Samples)

**FOR RESEARCH USE ONLY, DO NOT USE IT IN CLINICAL DIAGNOSIS**

## Product Description

It is present in most of the tissues. Especially in cardiac muscle, liver cells, skeletal muscle & kidneys. Injury to these tissues results in the release of the enzyme in blood stream. Increased levels are found in myocardial infarction. The duration & extent of increase is related to the infarct. GOT determination is of considerable value to differentiate myocardial infarction from other cardiac disorders. Increased levels are also found in various types of liver disease, skeletal muscle trauma & in renal diseases. Decreased levels may be found in pregnancy, Beri-Beri & Diabetic ketoacidosis.

Kinetic determination of lactate dehydrogenase according to the following reaction.



## Kit components

Reagent	Volume	Storage
Extraction Reagent	60mL	2-8°C
Reagent I	24mL	2-8°C
Reagent II	6mL	2-8°C

## Open Vial Stability

Once opened, the reagent is stable up to four weeks at 2-8°C, if contamination is avoided

## Reagents and Equipment Required but Not Provided

Constant temperature water bath, cooling centrifuge, UV-spectrophotometer/microplate reader, micro quartz cuvette/96 well UV-flat bottom plate and distilled water.

## Reagent Deterioration

Turbidity or precipitation on in any kit component indicates deterioration and the component must be discarded. Sample should be retested using a fresh vial of reagent.

## Reagent Preparation

Mix 4 volumes of Reagent I with 1 volume of Reagent II The working reagent is stable for 21 days at 2-8°C.

**NOTE:** Discard the working reagent if the blank absorbance is less than 1.0 at 340nm

## Precaution

- To avoid contamination, use clean laboratory wares. Use clean, dry disposable pipette tips for dispensing. Close reagent bottles immediately after use.
- Avoid direct exposure of reagent to light. Do not blow into the reagent bottles.

## Operation Procedures

### Sample Preparation

#### 1. Bacteria or cells

Harvest the cells and wash twice with PBS. Ideal to use 5 million cells for the assay. Add 1mL Extraction Reagent to 5 million cells and ultrasonicate (200W, work time 3 second / interval 10 seconds repeat for 30 times) for complete lysis. Perform ultrasonication while keeping the cells in ice bath. Centrifuge at 8000 rpm, 4°C for 10 minutes and collect the supernatant. The supernatant should be kept on ice.

**Note:** Ideal proportion of Cells/Bacteria to Extraction Reagent is 1:5-10.

## 2. Tissue

Prepare 10% tissue homogenate by adding 1mL Extraction Reagent to 0.1g tissue. Grind completely to make a homogenate. Centrifuge at 8000 rpm, 4°C for 10 minutes and collect the supernatant.

## 3. Serum or Plasma

Directly use for the assay.

## Unit Conversion

Traditional Unit	SI Unit	Conversion from Traditional to SI
U/L	μKat/L	× 0.017

## Procedure Notes

Reagent	Volume
Working Reagent	1000μL
Sample	10μL
Mix and incubate at 37°C for 1 minute. Measure the change in absorbance per minute (Δ OD/min) during 3 minutes.	

## Calculation

$$\text{LDH-P activity (U/L)} = (\Delta \text{OD/min}) \times 16030$$

## Performance

### Linearity

- This reagent is linear up to 2400 U/L
- If the concentration is greater than linearity (2400 U/L), dilute the sample with normal saline and repeat the assay. Multiply the result with dilution factor.

## Sensitivity

Lower detection limit is 7 U/L.