



ISO 13485:2016 ISO 9001:2015

Ver.260201

Glutamic-pyruvic transaminase (GPT) Assay Kit

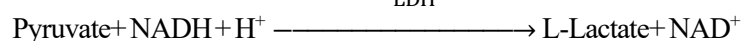
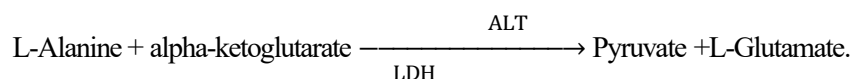
BC15002-02 (60T/60S)

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

Product Description

It is present in most of the tissues, but mainly found in the liver. Increased levels are found in hepatitis, cirrhosis, obstructive jaundice & other hepatic disease. SGPT activity is markedly elevated even before clinical signs of jaundice become apparent in disease associated with hepatic necrosis. Slight elevations are also found in myocardial infarction.

Kinetic determination of Alanine Aminotransferase (ALT) according to the following reaction.



Wavelength of absorbance is 340nm

ALT: Alanine aminotransferase

LDH: Lactate dehydrogenase

Kit components

Reagent	Volume	Storage
Extraction Reagent	1 × 60mL	2-8°C
Reagent 1	2 × 24mL	2-8°C
Reagent 2	2 × 6mL	2-8°C

Open Vial Stability

Once opened, the reagent is stable up to 4 weeks at 2-8°C, if contamination is avoided

Reagents and Equipment Required but Not Provided

Constant temperature water bath, cooling centrifuge, spectrophotometer/microplate reader, micro glass cuvette/96 well 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 volume of Reagent 1 with 1 volume of Reagent 2.

This Working reagent is stable for 30 days at 2-8°C.

Note: Discard the working reagent, if the blank absorbance is less than 1.0 at 340 nm.

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 seconds / 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.

Materials Required but Not Provided

Pipettes & Tips, Test Tubes & racks, Timer, Incubator

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	100μL

Mix and incubate at 37°C for 1 minute. Measure the change in absorbance per minute (Δ OD/min) during 3 minutes.

High Linearity Procedure

Mix and incubate at 37°C for 1 minute. Read the change in absorbance per 20 seconds, during 1 minute.

Calculation

SGPT activity (U/L) = (Δ OD/min) × 1745

Performance

Linearity

- This reagent is linear up to 1000 U/L
- If the concentration is greater than 350 U/L, follow the high linearity procedure to get higher linearity of 1000 U/L.
- If the concentration is greater than linearity, dilute the sample with normal saline and repeat the assay. Multiply the result with dilution factor.

Sensitivity

Lower detection limit is 0.5 U/L.