



ISO 13485:2016 ISO 9001:2015

Ver.250301

# Glutamic-pyruvic transaminase (GPT) Assay Kit

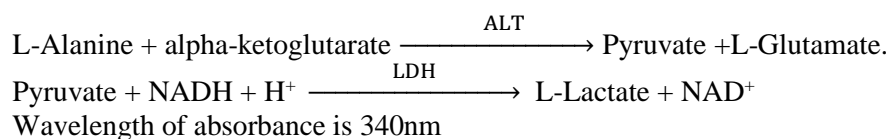
BC15002-01(60Tests/60Samples)

**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.



## 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. Values outside the recommended acceptable range for the Qualicheck Norm & Path control may also be an indication of reagent instability and associated results are invalid. 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 second / interval 10 second 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, Analyzer

## Unit Conversion

Traditional Unit	SI Unit	Conversion from Traditional to SI
U/L	$\mu\text{Kat/L}$	$\times 0.017$

## Procedure Notes

Reagent	Volume
Working Reagent	1000 $\mu\text{L}$
Sample	100 $\mu\text{L}$
Mix and incubate at 37°C for 1 minute. Measure the change in absorbance per minute ( $\Delta\text{OD}/\text{min}$ ) during 3 minutes.	
<b>High Linearity Procedure</b>	
Mix and incubate at for 1 minutes 370 C. Read the change in absorbance per 20 seconds, during 1 minute	

## Calculation

SGPT activity (U/L) = ( $\Delta\text{OD}/\text{min}$ )  $\times$  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.