



# $\gamma$ - Glutamyl transferase ( $\gamma$ -GT/GGT) Assay Kit

(Cat/No.:BC075 Size:96T)

## 1. Composition (The kit is valid for 1 year)

**Reagent 1:** 20mL\* 1 bottle, stored at 2~8°C .

**Reagent 2:** 5mL\* 1 bottle, stored at 2~8°C .

**Reagent 3:** Standard powder \* 1 (add 0.25mL distilled water to dissolve when using, see label for enzyme viability value). Store at 2~8°C . (Long-term storage place below -20°C)

## 2. Assay Principle (GPNA substrate method)

$\text{GluCANAGly} \cdot \text{gly} \xrightarrow{\text{GT}} \text{Glu} \cdot \text{gly} \cdot \text{gly} + 5\text{-Amino-2-nitrobenzoic acid}$

The 5-Amino-2-nitrobenzoic acid formed by the reaction has the maximum absorption at a specific wavelength, and the rate of 5-Amino-2-nitrobenzoic acid formation is directly proportional to the activity of  $\gamma$ -glutamyltransferase ( $\gamma$ -GT) in the serum. The viability of  $\gamma$ -GT can be measured by determining the rate of increase of absorbance.

## 3. Storage Conditions and Expiry Date

Stored at 2 to 8°C for 1 year away from light. To avoid contamination after opening, please use up as soon as possible.

## 4. Sample Requirements

Serum or plasma. Blood should be separated promptly after collection to avoid haemolysis. The specimen should be stored at 2~8°C for 3 days and -20°C for 1 month.

## 5. Assay Methods

○ Enzyme Labeler Operation Procedure:

### 1. Main Performance Parameter

Wavelength	415nm	Reaction Method	Rate Method
Temperature	37°C	Reaction Direction	Upward

### 2. Method of operation

Reagent	Blank	Standard	Assay
Distilled water	15 $\mu$ L		
Standard solution		15 $\mu$ L	
Sample			15 $\mu$ L

Reagent 1	200μL	200μL	200μL
Mix well and incubate at 37°C for 3~5 minutes.			
Reagent 2	50μL	50μL	50μL
Mix well and incubate at 37°C for 60 seconds at 415nm. Continuously monitor the absorbance change of each well for 1-3 minutes and calculate $\Delta A$			

**Note:** The continuous monitoring time can be extended to 5 min when the sample viability is low.

## 6. Calculation Formula

$$\gamma\text{-GT (U/L)} = \frac{\Delta A_{\text{assay}} - \Delta A_{\text{blank}}}{\Delta A_{\text{standard}} - \Delta A_{\text{blank}}} \times \text{Viability of standard (U/L)}$$

## 7. Reference Range

Male (37°C): 11~50U/L

Female (37°C): 7~32U/L

(It is recommended that laboratory establish own range of reference values)

## 8. Product Performance Indicators

Reagent blank absorbance: A<sub>415nm(1.0cm)</sub> < 1.0;

Reagent blank absorbance change rate:  $\Delta A/\text{min} \leq 0.005$ ;

Linearity range: 3~450U/L (judgement basis:  $r^2 \geq 0.995$ );

Accuracy: relative deviation  $\leq 10.0\%$ ;

Precision: intra-assay CV < 4.0%; inter-assay relative extreme deviation  $\leq 6.0\%$ .

Sensitivity: Lower limit of detection  $\leq 4.0\text{U/L}$ .

## 9. Intended Usage

This kit is used for the quantitative determination of  $\gamma$ -glutamyltransferase (GGT) in serum or plasma. Elevated  $\gamma$ -glutamyltransferase can be seen in acute and chronic hepatitis, obstructive jaundice, biliary tract infections, acute pancreatitis, and other hepatobiliary diseases.

## 10. Note

- ① The kit includes a 96T specification enzyme labeling plate for use in the test.
- ② If the instrument does not have the wavelength required by the kit, choose a close wavelength, but the wavelength difference should not exceed 10nm.
- ③ It is not recommended to mix different batches of reagents.
- ④ If the viability of the sample is low, double the sample volume. (At this time, the standard is diluted double, also doubled the amount of the sample).