PATHOZYME DIAGNOSTICS

LIQVIPATH GAMMA GT

(SZASZ METHOD)

CAT NO.: GGL

Reagent kit for quantitative estimation of Gamma Glutamyl Transferase (Gamma GT) in Serum or Plasma.

DIAGNOSTIC SIGNIFICANCE:

γ-GT (γ-glutamyltransferase) is an enzyme present in the kidney, pancreas, liver, and prostate. It is a sensitive indicator of liver disease, very helpful in diagnosing hepatobiliary obstruction, and is elevated in all forms of liver disease and alcoholism.

GGT is one of the most sensitive enzyme of the hepatobiliary system. Elevated serum gamma-GT levels are indicative of the disease of the liver, biliary tract and pancreas. In cases of metastatic carcinoma, viral hepatitis, chronic hepatitis,cholelithiasis, cholangitis and cholecystitis, gamma-GT levels are found to be elevated. Since GGT activity is not elevated in any bone disorders, the assay is considered as a valuable diagnostic aid for differentiation between bone and liver disease in conjuction with alkaline phosphatase.

PRINCIPLE:

Gamma-glutamyl-3-carboxy-p-nitroanilide (Glupa-C) and glycylglycine are converted by the action of GGT to 5-Amino-2-nitrobenzoic acid and L-gamma glutamyl glycylglycine. The rate of increase in absorbance at 405 nm due to the release of to 5-Amino-2-nitrobenzoic acid is directly proportional to the GGT activity.

Glupa-C + Glycylglycine $\xrightarrow{GGT}$ L-gamma glutamyl glycylglycine + 5-Amino-2-nitrobenzoic acid

SPECIMEN COLLECTION:

Fresh Serum or EDTA plasma.

Stable 7 days at 2-8°C. Store at -20°C for longer period.

KIT PRESENTATION:

PACK SIZE	2 X 10 ml	2 X 20 ml
R1- Gamma GT (Buffer Reagent)	2 X 8 ml	2 X 16 ml
R2- Gamma GT (Substrate Reagent)	2 X 2 ml	2 X 04 ml

REAGENT STORAGE AND STABILITY:

All reagents are stable at 2-8°C until the expiry date stated on the label.

WORKING REAGENT PREPARATION:

Mixing 4 volumes of **R1-GGT (Buffer Reagent)** with 1 volume of **R2-GGT (Substrate Reagent).** i.e. 800 µl R1 + 200 µl R2.

The working reagent is stable for **21** days at 2-8°C.

NORMAL VALUES at 37°C:

	Female (IU/L)	Male (IU/L)
Adults	9 – 39	11 - 61
1 day – 6 months	12 – 122	15 – 132
6 months – 1 year	1 – 39	1 – 32
1 – 12 years	4 – 22	3 – 22
13 – 18 years	4 - 24	2 - 42

Each laboratory should establish its own normal range.

ASSAY PARAMETERS:

Reaction	: Kinetic	Sample Volume	: 20 µl
Wavelength	: 405 nm	R1 + R2 Volume	: 800 µl + 200 µl
Flow Cell Temp.	: 37°C	Factor	: 7625
Initial Delay	: 60Sec	Reaction Slope	: Increasing
Interval Time	: 30 Sec	Zero Setting	: Dist. Water
Read Time	: 90 Sec	Linearity	: 500
No. of Reading	: 03	Unit	: IU/L

PROCEDURE:

Addition Sequence	Test
R1- Gamma GT (Buffer Reagent)	800 µl
R2- Gamma GT (Substrate Reagent)	200 µl
Sample (Test)	20 µl

Mix & aspirate immediately and read **first** absorbance of test exactly at 60 seconds and then, **second, third** and **fourth** at an interval of 30 seconds at 405 nm. Determine the mean change in absorbance per minute. (ΔA/min) and calculate the test results.

CALCULATION:

GGT Activity (IU/L) = ΔA/min X 7625

LINEARITY:

This method is linear up to **500 IU/L**. For values above 500 IU/L, dilute the sample suitably with 0.9 % saline, and repeat the assay. Apply correction due to dilution to arrive at a final result.

REFERENCES:

1. SZASZ G. Clin. Chem. 22:2051 (1976)
2. TIETZ Textbook of Clinical Chemistry, Burtis-Ashwood, 2nd Edition (1994)
3. BERGMEYER HU Method of enzymatic analysis (1987)
4. EU-Dir 1999/11 Commission Directive of 8 March 1999 adapting to technical progress the principles of good laboratory practice as specified in Council Directive 87/18/EEC.

IFU No.: 019/00 | Rev. No.: 00/120723

Expiry Date | IVD In-Vitro Diagnostics Use | Storage | Mfg. Date | LOT Batch Number | REF Catalogue Number | See Package Insert

PATHOZYME DIAGNOSTICS

An ISO 9001:2015, ISO 13485:2016, CE & GMP Certified Company

A-115, Kagal Five Star MIDC, Kagal, Dist. Kolhapur-416 216.

Tel: 0231-2305072, Cell: +91 88058 67810, E-mail: contactus@pathozyme.com, Website: www.pathozyme.com