N BIO - Gamma GT

(Szaz tris method)

KIT NAME	KIT SIZE	CAT. NO
N BIO - Gamma GT	2 x 50 ml	DGGT02050M

GENUINE BIOSYSTEM

INTRODUCTION

γ-Glutamyltransferase (GGT, GGTP) is a membrane localized enzyme that catalyzes the transfer of glutamyl groups from glutathione to amino acids or peptides. Large GGT amounts are present in secretory organs: kidney, liver, bile duct, pancreas. Although the GGT activity is highest in renal tissue, serum GGT is generally elevated as a result of liver disease. Since alcohol induces GGT production, measurement of GGT activity is used for monitoring of abstinence in withdrawal treatment.

METHOD PRINCIPLE

Kinetic method with L-g-glutamyl-3-carboxy-4-nitroanilide.

L-g-glutamyl-3-carboxy-4-nitroanilide + glycylglycine <γ-GT>
L-g-glutamyloglycylglycine + 5-amino-2-nitrobenzoate

The rate of absorbance changing at λ = 405 nm is directly proportional to g-glutamyltransferase activity.

KIT CONTENTS

Reagent Name	DGGT02050M
R1 GGT Reagent	2 x 40 ml
R2 GGT Reagent	2 x 10 ml

The reagents when stored at 2-8°C are stable up to expiry date printed on the package. The reagents are stable for 8 weeks on board the analyser at 2-10°C.
Protect from light and avoid contamination.

WORKING REAGENT PREPARATION AND STABILITY

Assay can be performed with use of separate R1-GGT and R2-GGT reagents or with use of working reagent. For working reagent preparation mix gently 4 parts of R1-GGT with 1part of R2-GGT.
Avoid foaming.
Stability of working reagent in darkness : 3 weeks at 2-8°C
5 days at 15-25°C
Protect from light and avoid contamination.

CONCENTRATIONS IN THE TEST

Tris (pH 8.25)	100 mmol/l
glycylglycine	100 mmol/l
L-γ-glutamyl-3-carboxy-4-nitroanilide	4 mmol/l

WARNINGS AND NOTES

Product for in vitro diagnostic use only.

ADDITIONAL EQUIPMENT

- Automatic analyzer or photometer able to read at 405 nm
- Thermostat at 25°C, 30°C or 37ºC
- General laboratory equipment

SPECIMEN

Serum, EDTA plasma free from hemolysis.
Do not use citrate, oxalate and fluoride as anticoagulants because of GGT activity inhibition! Heparin causes turbidity in the reaction mixture.
GGT activity remains stable in specimen up to 2 days at 15-25°C or 1 week at 2-8°C or 1 month at -25°C but it is recommended to perform the assay with freshly collected samples. Freezing of sample causes a loss of enzyme activity. Frozen specimens should be thawed and kept at room temperature for 18 to 24 hours before measurement to achieve full enzyme reactivation.

PROCEDURE

These reagents may be used both for manual assay and in several automatic analysers. Applications for them are available on request.

Wavelength	405 nm
Temperature	37°C
Cuvette	1 cm

Pipette into the cuvette:

Reagent	Test (T)
R1 GGT reagent	800 µl
R2 GGT reagent	200 µl
Bring to assay temperature, then add	
Sample	100 µl

ix and incubate at adequate temperature. After about 1 min. read the absorbance against air or water. Repeat the reading after exactly 1, 2 and 3 minutes. Calculate the mean absorbance change per minute (ΔA/min.).

CALCULATION

GGT activity [U/l] = ΔA/min. x 1600

REFERENCE VALUES

Female	7 to 32 U/L
Male	11 to 50 U/L

It is recommended for each laboratory to establish its own reference ranges for local population.

QUALITY CONTROL

To ensure adequate quality control, each run should include assayed normal and abnormal controls. If commercial controls are not available it is recommended that known value samples be aliquoted, frozen and used as controls.

PERFORMANCE CHARACTERISTICS

- **Sensitivity / Limit of Quantitation:** 1.5 U/L.
- **Linearity**: up to 1000 U/L
- **Specificity / Interferences**
  Haemoglobin up to 2.5 g/dl, ascorbate up to 62 mg/l, bilirubin up to 20 mg/dl and triglycerides up to 500 mg/dl do not interfere with the test.

WASTE MANAGEMENT

Please refer to local legal requirements.

LITERATURE

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3. Burtis C.A., Ashwood E.R., ed. Tietz Textbook of Clinical Chemistry, 2nd ed. Philadelphia, PA: WB Saunders, 850-1, (1994).
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5. Kaplan L.A., Pesce A.J.: Clinical Chemistry. Theory, analysis and correlation 3rd Ed., the C.V. Mosby Company, St. Louis 1996, p.1072.

SYSTEM PARAMETERS

Method	Kinetic
Wavelength	405 nm
Zero Setting	Distilled Water
Temperature Setting	37° C
Incubation Temperature	37° C
Incubation Time	----
Delay Time	60 secs
Read Time	180 secs
No. of Reading	3
Interval Time	60 secs
Sample Volume	0.1 ml (100 µl)
Reagent Volume	1.0 ml (1000 µl)
Standard Concentration	----
Units	U/L
Factor	1600
Reaction Slope	Increasing
Linearity	1000 U/L

IVD CE

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