



Liquick Cor - GGT

Kit name	(EN)	Cat. No
Liquick Cor-GGT mini		1-296
Liquick Cor-GGT 30		1-226
Liquick Cor-GGT 60		1-224
Liquick Cor-GGT 500		1-318

INTENDED USE

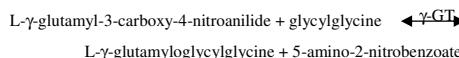
Diagnostic kit for determination of γ -glutamyltransferase activity used both for manual assay (Sample Start and Reagent Start method) and in several automatic analysers. The reagents must be used only for *in vitro* diagnostic, by suitably qualified laboratory personnel, only for the intended purpose, under appropriate laboratory conditions.

INTRODUCTION

γ -Glutamyltransferase (GGT, GGT) 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

IFCC method. Kinetic method with L- γ -glutamyl-3-carboxy-4-nitroanilide.



The rate of 5-amino-2-nitrobenzoate creation measured colorimetrically is directly proportional to γ -glutamyltransferase activity.

REAGENTS

Package

Liquick Cor-GGT	Liquick Cor-GGT	Liquick Cor-GGT	Liquick Cor-GGT
mini	30	60	500
1-GGT	2 x 24 ml	5 x 24 ml	5 x 48 ml

2-GGT 1 x 12 ml 1 x 30 ml 1 x 60 ml 1 x 300 ml

The reagents when stored at 2-8°C are stable up to expiry date printed on the package. The reagents are stable for 12 weeks on board the analyser at 2-10°C.

Working reagent preparation and stability

Assay can be performed with use of separate 1-GGT and 2-GGT reagents or with use of working reagent. For working reagent preparation mix gently 4 parts of 1-GGT with 1 part of 2-GGT. Avoid foaming.

Stability of working reagent in darkness: 4 weeks at 2-8°C
5 days at 15-25°C

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

- Protect from direct sunlight and avoid contamination!
- 1-GGT and 2-GGT meeting the criteria for classification in accordance with Regulation (EC) No 1272/2008.

Ingredients:

1-GGT and 2-GGT contain reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one, mixture (3:1).

Warning



- H317 - May cause an allergic skin reaction.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice.
P363 Wash contaminated clothing before reuse.

ADDITIONAL EQUIPMENT

- automatic analyzer or photometer able to read at 405 nm;
- thermostat at 25°C, 30°C or 37°C;
- general laboratory equipment;

SPECIMEN

Serum, EDTA plasma free from haemolysis.
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. 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.
Nevertheless it is recommended to perform the assay with freshly collected samples!

PROCEDURE

Applications for analyzers are available on request.

Manual procedure

wavelength	405 nm
temperature	25°C / 30°C / 37°C
cuvette	1 cm

Sample Start method

Pipette into the cuvette:	
working reagent	1000 μ l
Bring up to the temperature of determination. Then add:	
sample	100 μ l
Mix 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 ($\Delta A/min$).	

Calculation

$$\text{GGT activity [U/l]} = \Delta A/\text{min.} \times 1511$$

$$1 \text{ U/l} = 0.0167 \text{ μ kat/l}$$

Reagent Start method

The determination can be also performed with use of separate 1-GGT and 2-GGT reagents.

Pipette into the cuvette:

1-GGT	1000 μ l
Bring up to the temperature of determination. Then add:	
sample	100 μ l
Mix well, incubate for 1 min. Then add:	

2-GGT	250 μ l
Mix well; perform measurement as described for Sample Start method.	

Calculation

$$\text{GGT activity [U/l]} = \Delta A/\text{min.} \times 1810$$

$$1 \text{ U/l} = 0.0167 \text{ μ kat/l}$$

Method comparison

A comparison between GGT values determined at Biolis 24i Premium (y) and at ADVIA 1650 (x) using 30 samples gave following results:
 $y = 1.0181 x - 2.5022 \text{ U/l}$
 $R = 0.9995$ (R – correlation coefficient)

WASTE MANAGEMENT

Please refer to local legal requirements.

LITERATURE

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Date of issue: 08. 2019.

