

REF NO **DESCRIPTION**
CZ904C **AST/GOT (COLORIMETRIC)**

PACKAGE SIZE

CZ 904C-1	2 X 50 ML
CZ 904C-2	2 X 100 ML

INTENDED USE

This reagent is intended for *in vitro* quantitative determination of AST/GOT in serum.

INTENDED USER: Professional Use Only

METHOD

COLORIMETRIC, REITMAN-FRANKEL METHOD

CLINICAL SIGNIFICANCE

The AST a cellular enzyme, it is present in most of the tissues. Especially in cardiac muscle, liver cells, skeletal muscle & kidneys. Injury to these tissues results in the release of the enzyme in blood stream. Increased levels are found in myocardial infarction. The duration & extent of increase is related to the infarct. GOT determination is of considerable value to differentiate myocardial infarction from other cardiac disorders. Increased levels are also found in various types of liver disease, skeletal muscle trauma & in renal diseases. Decreased levels may be found in pregnancy, Beriberi & Diabetic ketoacidosis.

PRINCIPLE

AST determination is based on the following reaction:

AST/GOT

L-Aspartate + 2-Oxoglutarate $\xrightarrow{\text{AST/GOT}}$ Oxaloacetate + L-Glutamate
Oxaloacetate formed reacts with 2-4-dinitrophenyl hydrazine to yield a colored hydrazone that can be measured at 505 nm.

REAGENT COMPOSITION

REAGENT 1 (SUBSTRATE)

Phosphate buffer pH 7.4 100 mmol/L
L-Aspartate 200 mmol/L
2-Oxoglutarate 4 mmol/L

REAGENT 2 (COLOR REAGENT)

2-4-dinitrophenyl hydrazine 1 mmol/L

STANDARD

Pyruvic Standard 1.2 mmol/L

Additional Reagent, but not provided

Sodium hydroxide 0.4 mol/L

REAGENT PREPARATION

Reagents and standard are ready to use.

REAGENT STORAGE AND STABILITY

The reagents are stable, if protected from light, up to the stated expiry date when stored at 2 - 8° C.

SPECIMEN

Serum, free of hemolysis.

PRECAUTION

- 1- To avoid contamination, use clean laboratory wares.
- 2- Avoid direct exposure of reagent to light.

ASSAY

Wavelength : 505 nm(490-520 nm)
Cuvette : 1 cm light path
Temperature : 37°C
Measurement : Against distilled water

PROCEDURE

	GOT
Reagent-1,(Substrate)	1 mL
Incubate for 5 minutes at 37°C	
Serum	0.2 mL
Mix and incubate at 37°C for 60 minutes	
Reagent-2 (Color)	1 mL
Mix and let 20 minutes at room temperature	
NaOH 0.4N	10 mL
Mix, wait for 5 minutes. Measure under conditions identical to those used for the standard curve. The color intensity stable for one hour	

CALCULATION

From absorbencies, read unit of GOT from corresponding curves.

CALIBRATION (mL)

Pipette into cuvettes	1	2	3	4	5	6
Distilled Water	0.2	0.2	0.2	0.2	0.2	0.2
Reagent 1 Substrate	1.0	0.9	0.8	0.7	0.6	0.5
Pyruvic standard	--	0.1	0.2	0.3	0.4	0.5
Reagent 2 Color	1.0	1.0	1.0	1.0	1.0	1.0
Mix, let stand for 20 minutes at room temperature						
NaOH 0.4 N	10	10	10	10	10	10
Mix, wait for 5 minutes, read absorbance of all tubes.						
Plot the standard curve of the absorbance found VS the corresponding unit, on a graph paper, according to the following concentrations						
GOT U/mL	0	22	55	95	150	215

LINEARITY

When GOT exceeds 165 U/mL, re-measure diluting the sample 1:10 in 9 g/L Sodium chloride.

NORMAL RANGE

GOT/AST: <40 units/mL

QUALITY CONTROL

All control sera with values determined by this method can be used.

SYMBOL ON LABELS

IVD in vitro diagnostics	 manufacturing date
LOT lot number	 expiry date
REF catalogue number	 manufacturer
 temperature limit	 instruction for use

BIBLIOGRAPHY

- 1- Reitman S., Frankel S., Am. Clin. Pathol., 28,56 (1957)
- 2- Tietz, NW., Fund of Clinical Chem., 446 (1970)
- 3- Schmidt, E., Enzymology Biol.Clin., 3,1 (1963)



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CZ904C-GOT
R2/15-12-2020

EC **REP**

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