GOT (AST) Glutamic – Oxaloacetic Transaminase
GPT (ALT) Glutamic – Pyruvic Transaminase

Colorimetric Method **GOT 100 Tests**
GPT 100 Tests

PRINCIPLE :

Colorimetric determination of GOT (AST) or GPT (ALT) activities according to the following reactions :

Aspartate + α-Ketoglutarate $\overset{\text{GOT}}{\rightleftharpoons}$ **oxaloacetate + glutamate**

Alanine + α-ketoglutarate $\overset{\text{GPT}}{\rightleftharpoons}$ **pyruvate + glutamate The keto acids pyruvate or oxaloacetate formed is measured in its derivative form, 2,4- dinitrophenylhydrazone.**

SAMPLES :

Serum. Hemolysis will interfere. Use fresh sample.

NORMAL VALUES :

GOT: up to 40 Units / ml GPT : up to 45 Units / ml

REAGENTS :

1.	**GOT Buffer substrate:** Phosphate buffer pH 7.5 Aspartate α-Ketoglutarate	 100 mmol/L 100 mmol/L 2 mmol/L
2.	**GPT Buffer substrate :** Phosphate buffer pH 7.5 Alanine α-Ketoglutarate	 100 mmol/L 200 mmol/L 2 mmol/L
3.	**Color Reagent :** 2,4 dinitrophenylhydrazine	 1 mmol/L
4.	**Standard pyruvate**	2 mmol/L
	Additional reagent: (available on request) Sodium hydroxide	0.4 N

STABILITY :

The reagents are stable up to the expiry date specified when stored at +4 to +8 °C .

PROCEDURE :

Set up the following tubes for each sample:

	GOT (ml)	GPT (ml)
Reagent 1	**0.5**	**—**
Reagent 2	**—**	**0.5**
Incubate for 5 min. at 37°C		
Serum	**0.1**	**0.1**
Mix and incubate at 37°C for :	**exactly 60 min**	**exactly 30 min**
Reagent 3	**0.5**	**0.5**
Mix. Let stand for 20 min. at room temperature.		
NaOH 0.4 N	**5.0**	**5.0**

Mix. Wait 5 min. Measure the absorbances at 505 nm (490 – 520 nm) against d. Water using cuvettes 1 cm light path. The color is stable for one hour. Linearity for GOT up to 150 units/ml and for GPT up to 120 units /ml .

CALCULATION :

Calculate the number of units / ml of GOT and GPT of sample using the standard curve .

QUALITY CONTROL :

For Accuracy and reproducibility control:-
Assayed Multi – Sera, Normal and Elevated.

BIODIAGNOSTIC
DIAGNOSTIC AND RESEARCH REAGENTS

Standard Curve

Pipette into test tubes (ml) :

Tube No.	1	2	3	4	5
D. Water	0.1	0.1	0.1	0.1	0.1
Reagent (1or 2)	0.5	0.45	0.4	0.35	0.30
Pyruvate (R4)	-	0.05	0.1	0.15	0.2
Reagent (3)	0.5	0.5	0.5	0.5	0.5
Mix. Let stand for 20 min. at room temperature					
NaOH 0.4 N	5	5	5	5	5
Mix. Wait 5 min. Measure as for test at 505 nm					
GOT units/ ml	0	22	55	95	150
GPT units/ ml	0	25	50	83	126

Plot the standard curve :

- **Abscissa : number of units / ml**
- **Ordinate : OD (505 nm)**

REFERENCE :

Reitman, A. and Frankel, S. (1957) : Amer J. Clin. Path ., 28 : 56.

GOT (AST)

Glutamic – Oxaloacetic Transaminase

GPT (ALT)

Glutamic – Pyruvic Transaminase

Colorimetric Method

+4 to +8˚C

GOT 100 Tests
GPT 100 Tests

In vitro diagnostic use

CAT. NO. AT 10 34 (45)

REAGENTS

R1	**GOT- Buffer Substrate**	**50 ml**
R2	**GPT- Buffer Substrate**	**50 ml**
R3	**Color Reagent**	**2 x 50 ml**
R4	**Standard Pyruvate**	**3 ml**

CONTACTS

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