ESTROM SGOT (AST)

(IFCC Method)

ANGSTROM BIOTECH PVT. LTD

This reagent kit is for quantitative estimation of Glutamate Oxaloacetate Transaminase Aspartate transferase activity in serum or plasma.

PRINCIPLE:

In the bisubstrate reaction, transfer of aminogroup from L-aspartate to alpha-ketoglutarate gives oxaloacetate and glutamate, this reaction is catalysed by glutamate oxaloacetate transaminase. Further malate dehydrogenase (MDH) acts on oxaloacetate to yield malate coupled with oxidation of NADH to NAD. The rate of decrease in absorbance is measured at 340 nm which corresponds to the GOT activity.

α-KETOGLUTARATE + L-ASPARTATE $\xrightarrow{SGOT}$ L-GLUTAMATE + OXALOACETATE

OXALOACETATE + NADH $\xrightarrow{MDH}$ L-MALATE + NAD

CLINICAL SIGNIFICANCE:

Elevated SGOT levels are observed in myocardial infarction, rheumatic diseases and acute congestive diseases. It is particularly useful in diagnosis and follow up of myocardial infarction. The increase in activity begins from 3-9 hours after infarction peaks at 24 hours and returns to normal on 4-6th day after infarction. SGOT is distributed in various organs like liver, muscle and kidney hence depending on the severity of the damage caused, the SGOT activity increases.

REAGENTS:

All the reagents are to be stored at 2-8° C.

	No. of bottles		
	5 x 100 ml	5 x 20 ml	5 x 10 ml
Reagent 1 (Buffer)	4	4	4
Reagent 2 (Substrate)	2	1	1

PRECAUTION:

- Estrom SGOT reagent is for In Vitro diagnostic use only.

Specimen:

1. Unhemolysed freshly collected serum/EDTA plasma (Morning samples are preferred).
2. Do not use the old samples that are stored for longer period as the internal pyruvate might give falsely elevated results.
3. Samples are stable for a week at 2-8°C and for a month when frozen at -10°C. Samples should be brought to room temperature prior to use.

Notes:

1. Take only the required amount of the reagent and keep the reagent back at 2-8°C immediately.
2. The reagent and sample volumes may be altered proportionally to accommodate into different analyzer requirements.

3. Using hemolysed sample is strictly restricted and the same may interfere with the original result.

Reagent Stability:

Do not make the working reagent.

Both Reagent 1 (R1) and Reagent 2 (R2) are available as ready to use reagents and are stable till the expiry date mentioned on the labels.

It is not suggested to make the working reagent when NADH are used as the reagents are configured as R1 and R2 systems to be used separately.

Mix R1 and R2 (800 R1 + 200 R2) along with sample at the time of testing

Test Procedure: **Pipette into clean dry glass test tubes:**

Dispense	Test
R1	800 µl
R2	200 µl
Serum / Plasma	100 µl

Mix well and after 60 Seconds incubation, measure the change in optical density per 60 seconds during 180 seconds against distilled water at 340 nm as follows.
Ao - Exactly after 60 Seconds
A1, A2, A3, A4 - Exactly after every 60 seconds for 180 seconds.

System Parameters:

Reaction type	: Kinetic	
Reaction Direction	: Decreasing	
Wavelength	: 340 nm	
Flow cell temp	: 37°C	
Zero setting with	: Distilled water	
Delay time	**: 60 secs**	**or Delay : 60 Sec**
Kinetic interval	**: 60 secs**	**Measuring : 180 Sec**
No. of readings	**: 4**	
Reagent volume	: 1ml	
Sample Volume	: 100 µl	
Factor	**: 1745**	
Linearity	: 500	
Units	: IU/L	
Low normal	: 0.00	
High normal	: 40.0	

LINEARITY:

This method is linear for SGOT activity up to 500 IU/L. For sample values exceeding the linearity limit, dilute the sample suitably with normal saline and repeat the assay. Apply proper dilution factor while calculation.

CALCULATION:

Concentration of SGOT in sample (IU/L) = Δ A/min. x Factor, [Factor = 1745]

REFERENCE VALUES:

Normal Value : 0 - 40 IU/L at 37° C.
It is recommended that each laboratory establish its own reference values.

BIBLIOGRAPHY:

- The committee on Enzymes of the Scandinavian Society for Clinical Chemistry and Clinical Physiology, Recommended methods for determination of four enzymes in bloods. Scand.J. Clin. Lab invest 33, 291 (1974)
- Clin. Clim. Acta,70, 19-42 (1976)

Angstrom Biotech Pvt.Ltd.
G1 - 1035, RIICO Industrial Area
Phase - III, Bhiwadi,
Alwar, Rajasthan.
Pin Code - 301019
Email: info@angstrombiotech.in
Website: www.angstrombiotech.in.
Customer Care Number - 9599194831

	Attention,see instructions for use		Consult Instructions For Use
IVD	For in vitro diagnostic use only	REF	Catalog #
2°C 8°C	Store between 2-8°C	LOT	Lot Number
	Do not use if package is damaged		Date of Manufacturing
	Manufacturer		Use by