SGPT (ALT)

INTENDED USE :

This reagent kit is intended for “in vitro" quantitative determination of SGPT (AU) activity in serum/plasma.

CLINICAL SIGNIFICANCE :

Even though glutamate oxalate transaminase is widely distributed in various tissues of the body. it is a useful parameter in evaluating liver function. The elevated serum levels are found in case of hepaWS. obstructive jaundice, metastatic carcinoma, hepatic congestion and myocardal infarction or in kidney diseases

PRINCIPLE :

Kinetic determination of Alanine aminotransferase (ALT) based upon IFCC recommendations:

REACTION:

L-Alanine +a-Ketoglutrate → Oxaloacetate=L-Glutamate

Oxaloacetate +NADH+H → L-Malate+NAD+H20

ALT = Alanine Amino transferase

LDH = Lactate dehydrogenase

PACK SIZE & REAGENTS :

Reagent 1 : Enzyme Reagent 1 x 10 ml 2 x 10 ml

Reagent 2:Substrate Reagent-ketoglutarate 5 x 10 ml 2 x 40 ml

MATERIALS REQUIRED BUT NOT PROVIDED

- Clean & Dry Glassware.
- Laboratory Glass Pipettes or Micro pipettes & lips
- Colormeteror Bio-Chemistry Analyzer.

SAMPLES :

Serum free of hemolysis. Heparin or EDTA plasma

PREPARATION OF REAGENT & STABILITY:

Mix 4 Volumes of Reagent -2 with One Volume of Reagent -1.

Stability : 5days at 20°C- 25°C,4 weeks at 2°C-8°C

Both the reagents are ready to use.

GENERAL SYSTEM PARAMETERS

Reaction type	: Kinetic reaction	Interval Time	: 60 Sec.
Wave length	: 340 mm	No. of readings	: 4
CuveffeTemperature	: 37°C	Factor	: 1746
Reagent Volume	: 1 ml	Zero setting	: Deionised water
Sample Volume	: 100	Light path	: 1cm
Delay Time	: 60 Sec	Units	: lU/L

PROCEDURE :

Working reagent	1ml
Sample	100 µl

Mix and after 60 second incubation, measure the change of optical density per minute (ΔODlmin.) during 4 minutes.

CALCULATION:

At 340 nm with working reagent procedure for 1 cm. Light path cuvette.

Activity (IU/L) ΔA/min. x 1746

LINEARITY :

Linear up to 300 IU/L

NORMAL VALUE :

Serum / Plasma < 37 IU/L

Normal values for infants are higher than adults. Each Laboratory should establish it’s own expected range.

QUALITY CONTROL:

For accuracy it is necessary to run known controls with every assay.

LIMITATION & PRECAUTIONS:

1. Storage conditions as mentioned on the kit to be adhered.
2. Do not freeze or expose the reagents to higher temperature as it may effect to performance of the kit.
3. Before the assay bring all the reagents to room temperature.
4. Avoid contamination of the reagent during assay process.
5. Use clean glassware free from dust ordebri
6. Reagent: sample ratio as mentioned here above must be strictly observed as an change in to it will aversely effect the factor.
7. Higher AST/GOT valus may induce falsely low result due to depletion of the substrate (total consumption of NADH before reading of the results). if an analyze is used verify the presence of depletion factors on application.

BIBLIOGRAPHY :

1. Henderson AR, Moss D.W., Enzymes, Tietz Fundamentals of Clin., Chem, 5th Ed.

2. Vassault A.. Et. Al; Protocole de validation de techniques, Ann. Biol., Clin., (1986) 44, 686.