PATHOZYME DIAGNOSTICS

LIQVIPATH SGOT (AST)

(Modified IFCC Method)

CAT NO.: OTL

Reagent kit for quantitative estimation of SGOT activity in Serum or Plasma.

DIAGNOSTIC SIGNIFICANCE:

Aspartate transaminase is present in all human tissues of the body. It is also present in large amounts in liver, kidneys, heart and skeletal muscles. When any of these organs is damaged or diseased, serum GOT level rises. The rise is proportional to the extent of damage or disease. Elevated levels are associated with liver disease or damage, myocardial infarction, muscular dystrophy and cholecystitis. In myocardial infarction GOT/AST levels increase after 3 to 8 hours of onset of attack and returns to normal in 4 to 6 weeks. The duration and extent of increase in level is proportional to the severity of attack. The change in levels over a period of time is useful to the physician in evaluating myocardial infarction, following chronic heart disease or resolving hepatitis.

PRINCIPLE:

SGOT react with L-Aspartate and α-Ketoglutarate to form Oxaloacetate & L-Glutamate. The Oxaloacetate reacts with NADH in the presence of MDH to form NAD. The rate change of absorbance (Decreasing) is directly proportional to the SGOT/AST activity in the sample.

L-Aspartate + α-Ketoglutarate $\xrightarrow{GOT}$ Oxaloacetate + L-Glutamate

Oxaloacetate + NADH $\xrightarrow{MDH}$ Malate + NAD

SPECIMEN COLLECTION:

Serum or Plasma free of hemolysis.

KIT PRESENTATION:

PACK SIZE	2 X 25 ml	4 X 25 ml	4 X 50 ml
R1- SGOT (Buffer Reagent)	2 X 20 ml	4 X 20 ml	4 X 40 ml
R2- SGOT (Substrate Reagent)	2 X 05 ml	4 X 05 ml	4 X 10 ml

WORKING REAGENT PREPARATION:

Mixing 4 volumes of R1 – SGOT (Buffer reagent) with 1 volume of R2 – SGOT (Substrate Reagent). i.e. 800 µl R1 + 200 µl R2.
The working reagent is stable for **30 days** at 2-8°C.

REAGENT STORAGE AND STABILITY:

All reagents are stable at 2-8^{0}C until the expiry date stated on the label.

NORMAL VALUES:

0 - 40 IU/L
Each laboratory should establish its own reference range.

LINEARITY:

Linearity is 500 IU/L with first assay procedure. With second assay procedure linearity is 1000 IU/L. For values above 1000 IU/L, dilute the sample suitably with 0.9 % saline, and repeat the assay. Apply correction due to dilution to arrive at a final result.

ASSAY PARAMETERS:

Parameters	Normal Procedure	High Linearity Procedure
Reaction	Kinetic	Kinetic
Wavelength	340 nm	340 nm
Flow Cell Temp.	37^{0}C	37^{0}C
Initial Delay	60 Sec	60 Sec
Interval Time	60 Sec	30 Sec
Read Time	180 Sec	90 Sec
No. of Reading	03 Nos.	03 Nos.
Sample Volume	**100 µl**	**50 µl**
R1 + R2 Volume	800 µl + 200 µl	800 µl + 200 µl
Factor	**1746**	**3376**
Reaction Slop	Decreasing	Decreasing
Zero Setting	Dist. Water	Dist. Water
Linearity	500	1000
Unit	IU/L	IU/L
Feed any one of above parameters as per your choice		

PROCEDURE:

Addition Sequence	Test
R1-SGOT (Enzyme Reagent)	800 µl
R2-SGOT (Starter Reagent)	200 µl
Sample (Test)	100 µl (For Normal Procedure) **or** 50 µl (For High Linearity Procedure)

Mix & aspirate immediately and read **first** absorbance of test exactly at 60 seconds and then, **second, third** and **fourth** at an interval of 60 / 30 seconds (As per Program) at 340 nm. Determine the mean change in absorbance per minute. (ΔA/min) and calculate the test results.

CALCULATION:

SGOT Activity (IU/L) = ΔA/min X Factor (as per sample value)

REFERENCES:

1. Tietz, N.W., Clinical guide to laboratory tests. 3rd Ed., (W.B.Saunders eds. Philadelphia USA), (1995), 76.
2. Henderson, A.R., Moss, D.W., *Enzymes*, Tietz Fundamentals of Clinical Chemistry, 5th Ed., Burtis, C.A. & Ashwood, E.R. (W.B.Saunders eds. Philadelphia USA), (2001), 352.

IFU No.: 038/00 | Rev. No.: 00/120723

Expiry Date | IVD In-Vitro Diagnostics Use | Storage | Mfg. Date | LOT Batch Number | REF Catalogue Number | See Package Insert

PATHOZYME DIAGNOSTICS
An ISO 9001:2015, ISO 13485:2016, CE & GMP Certified Company
A-115, Kagal Five Star MIDC, Kagal, Dist. Kolhapur-416 216.
Tel: 0231-2305072, Cell: +91 88058 67810, E-mail: contactus@pathozyme.com, Website: www.pathozyme.com