AGD

CliniPak

SGOT

(IFCC KINETIC)

Code	Pack Size
AGDSP - OT125	R1 : 5 X 20 mL, R2 : 5 X 5 mL
AGDSP -OT115	R1-5 x 18mL R2-5 x 5mL
AGDSP -OT145	R1-5 x 23mL R2-5 x 6mL

INTENDED USE

SGOT (AST) is a reagent set for in vitro quantitative determination of SGOT(serum Glutamic Oxaloacetic Transaminase)/ AST(Aspartate Aminotransferase) in serum or plasma.

CLINICAL SIGNIFICANCE

The highest concentration of AST is found in heart, liver and skeletal muscles. When any of these organs are damaged, the SGOT (AST) level rises in proportion to theseverity of damage. SGOT is used to control the patients after myocardial infarction, skeletal muscle disease etc.

Increased Levels: are observed in myocardial infarction, hepatitis, mononucleosis, pancreatitis, trauma of skeletal muscle, renal necrosis and cerebral necrosis.

PRINCIPLE

Aspartate aminotrasaminase catalyses the reaction between α- Ketoglutarate and L-Aspartate, giving glutamate and oxaloacetate. Oxaloacetate in presence of malate dehydrogenase reacts with NADH giving malate and NAD. There is decrease in absorbance at 340nm as NADH is converted to NAD.The rate of decrease in absorbance is measured and is proportional to AST in the sample.

$$\text{L-Aspartate} + \alpha\text{- Ketoglutarate} \xrightarrow{\text{AST}} \text{Oxaloacetate} + \text{L- Glutamate}$$

$$\text{Oxaloacetate} + \text{NADH} + H^{+} \xrightarrow{\text{MDH}} \text{L- Malate} + NAD^{+}$$

PROCEDURE

Reagent 1 + Incubation + Sample
(240µL) (60secs) (30µL)

Reagent 2 → Measurement
(60µL) (180sec) (340nm)

REAGENT COMPOSITION

REAGENT 1

Buffer pH 7.8	≈ 80 mmol/L
L - Alanine	≈ 200mmol/L
LDH	> 1000 U/L
MDH	> 500 U/L

REAGENT 2

NADH	≈0.18 mmol/L
α - Keto Glutarate	≈12 mmol/L

REAGENT STORAGE AND STABILITY

SGOT (AST) is a two-reagent system ready to use. The reagent is stable till the expiry date stated on the reagent bottle label when stored at 2-8°C and protected from light.

SAMPLE

Collect sample using standard sampling tube. Preferably serum samples can be used. Heparinized plasma or EDTA plasma can be used. Do not use hemolyzed or grossly contaminated samples.

BASIC PARAMETER

SHORT NAME	SGOT
NAME	SGOT
METHOD	IFCC Kinetic
ASSAY	Kinetic (RATE A)
MAIN WAVE	340nm
SUB WAVE	0
DECIMAL	2
UNIT	IU/L
R1 VOLUME	240µL
INCUBATION	60 secs
R2 VOLUME	60µL
SAMPLE VOLUME	30µL
INCUBATION	0 secs
REACTION TIME (DELAY)	60 secs
CHECK TIME (READ)	180 secs
LINEAR RANGE	0-450
ABSORBANCE RANGE	0-2.5
LINEARITY LIMIT	40
SUBSTRATE SHORTAGE	< 0.7
CALIBRATION TYPE	SINGLE SPOT LINEARITY
DILUTION RATIO	6
SAMPLE VOLUME	50

*Enter calibrator value as per the lot of calibrator and method.

PERFORMANCE CHARACTERISTIC

- **LINEARITY**

Reagent is linear up to 450 IU/L.Dilute the sample appropriately and re- assay if SGOT concentration exceeds 450 IU/L or ΔA/min exceeds 0.171. Multiply result with dilution factor.

- **PRECISION**

Reproducibility of within run,determined using quality control sera as shown below. n=15

Quality control material	Mean IU/L	SD IU/L	% CV
Low Control serum	38.91	0.50	1.30
High Control serum	146.0	1.25	0.86

REFERENCE NORMAL VALUE

Serum / Plasma: 0 - 35 IU/L

QUALITY CONTROL

To ensure adequate quality control,it is recommended that the laboratory should use a normal and abnormal commercial reference control serum.The quality control material is used to check the function of reagents and the machine together.

LIMITATIONS & PRECAUTIONS

- Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
- Storage condition as mentioned on the kit to be adhered.
- Before the assay bring all the reagents to the room temperature.
- Avoid contamination of the reagent during assay process.
- Use clean glassware free from dust and debris.
- Reagent to sample ratio as mentioned above must be strictly adhered, as any changes it affects the factor and result.
- In case reagent comes in contact with eyes,immediately rinse with plenty of water and seek medical advice.

CE | IVD

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EU REP

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