AGD

CliniPak

SGPT

(IFCC KINETIC)

Code	Pack Size
AGDSP - PT125	R1 : 5 X 20 mL R2 : 5 X 5 mL
AGDSP -PT115	R1-5 x 18mL R2-5 x 5mL
AGDSP -PT145	R1-5 x 23mL R2-5 x 6mL

INTENDED USE

SGPT (ALT) is a reagent set for in vitro quantitative determination of SGPT (serum Glutamic Pyruvic Transaminase)/ ALT(Alanine Aminotransferase) in serum or plasma.

CLINICAL SIGNIFICANCE

ALT is found in the cytosol of cells and is basically derived from the liver and kidney. It is commonly measured clinically as a part of a diagnostic evaluation of hepatocellular injury.

Increased Levels : are observed when cells are damaged in liver,kidneys,heart and skeletal muscle.

Decreased Levels :are observed in case of Vitamin B_6 deficiency.

PRINCIPLE

ALT catalyses the transformation of L-Alanine and Oxoglutarate at optimal pH to give Pyruvate and L-Glutamate. The pyruvate is then transformed by Lactate dehydrogenase in presence of NADH / NAD+ coenzyme to L-Lactate, where the oxidoreductive process shows a decrease in absorbance at 340nm which correlates with SGPT activity.

$$\text{L-Alanine + Oxoglutarate} \xrightarrow{\text{ALT}} \text{Pyruvate + L- Glutamate}$$

$$\text{Pyruvate + NADH + H}^+ \xrightarrow{\text{LDH}} \text{L-lactate + NAD}^+$$

PROCEDURE

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

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

REAGENT COMPOSITION

REAGENT 1

Buffer pH 7.8	≈ 100 mmol/L
L - Alanine	≈ 500mmol/L
LDH	> 2000U/L

REAGENT 2

NADH	≈0.18 mmol/L
α - Keto Glutarate	≈15 mmol/L

REAGENT STORAGE & STABILITY

SGPT (ALT) 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 EDTAplasma can be used. Do not use hemolyzed or grossly contaminated samples.

BASIC PARAMETER

SHORT NAME	SGPT
NAME	SGPT
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 SGPT 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	37.7	0.29	0.78
High Control serum	140.0	1.01	0.72

REFERENCE NORMAL VALUE

Serum / Plasma: 0 - 40 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
AGD Biomedical Pvt. Ltd.
Site 2 : Plot No. W-29 E, TTC Industrial Area,MIDC,Thane Belapur Road, Rabale, Navi Mumbai,Thane, Maharashtra,(India)- 400701.
E : indiasales@agdbio.com
W : www.agdbio.com

ISO 13485:2016 ISO 9001:2015

EU REP
Obelis s. a.
Bd General Wahis
53 1030 Brussels Belgium
Phone : +32 2 732 59 54