LiquiCHEK ™

SGPT (S.L)

2 x 30 mL, 3 x 50 mL, 4 x 125 mL
11409005, 11409003, 11409006

INTENDED USE

This reagent is intended for *in vitro* quantitative determination of SGPT in serum or plasma.

- IFCC recommended methodology
- Linear up to 1000 U/L
- Working reagent can be prepared as per requirements

CLINICAL SIGNIFICANCE

It is present in most of the tissues, but mainly found in the liver. Increased levels are found in hepatitis, cirrhosis, obstructive jaundice & other hepatic disease. SGPT activity is markedly elevated even before clinical signs of jaundice become apparent in disease associated with hepatic necrosis. Slight elevations are also found in myocardial infarction.

PRINCIPLE

Kinetic determination of Alanine Aminotransferase (ALT) according to the following reaction.

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

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

ALT – Alanine aminotranferase
LDH - Lactate dehydrogenase

REAGENT COMPOSITION

SGPT (S.L) R1	**2 x 24 mL / 3 x 40 mL / 4 x 100 mL**
Tris buffer (pH 7.5)	110 mmol/L
L-Alanine	600 mmol/L
LDH	> 1500U/L
SGPT (S.L)R2	**2 x 6 ml / 3 x 10 mL / 4 x 25 mL**
alpha-ketoglutarate	16 mmol/L
NADH	0.24 mmol/L

STORAGE AND STABILITY

The sealed reagents are stable up to the expiry date stated on the label, when stored at 2 - 8^{0}C.

LINEARITY

This reagent is linear up to 1000 U/L.
If the concentration is greater than 350 U/L, follow the high linearity procedure to get higher linearity of 1000 U/L.
If the concentration is greater than linearity dilute the sample with normal saline and repeat the assay. Multiply the result with dilution factor.

NORMAL RANGE

It is recommended that each laboratory establish its own reference values.
The following value may be used as guide line.

Serum up to :	49 U/L

PREPARATION AND STABILITY OF WORKING REAGENT

Mix 4 volumes of Reagent 1 (R1) with 1 volume of Reagent 2 (R2)
The working reagent is stable for 30 days at 2-8^{0}C.
NOTE: Discard the working reagent if the blank absorbance is less than 1.00 at 340 nm.

PRECAUTION

To avoid contamination use clean laboratory wares.
Avoid direct exposure of working reagent to light.

SAMPLE

Serum / plasma (free of haemolysis)

GENERAL SYSTEM PARAMETER

	Normal procedure	HighLinearity procedure
Mode of Reaction	Kinetic	Kinetic
Slope of reaction	Decreasing	Decreasing
Wavelength	340 nm	340 nm
Temperature	37^{0}C	37^{0}C
Factor	1745	1745
Linearity	350 U/L	1000 U/L
Blank	DI Water	DI Water
Delay	60 sec	60 sec
No of reading	3	3
Interval	60 sec	20 sec
Sample volume	100 µL	100 µL
Reagent volume	1000 µL	1000 µL
Cuvette	1 cm light path	1 cm light path

LABORATORY PROCEDURE

Working reagent	1000 µL
Sample	100 µL

Mix and incubate at 37^{0}C for 1 minute. Measure the change in absorbance per minute (ΔOD/min) during 3 minutes.

High Linearity Procedure

Mix and incubate for 1 minute at 37^{0}C. Read the change in absorbance per 20 sec during 1 minutes.

CALCULATION

SGPT activity (U/L) = (ΔOD/min) x 1745

BIBLIOGRAPHY

1. Clin. Chem, Acta. 105, 147-172 (1780)
2. Thefeld, W., et al.; Dtsch. Med Wschr.99, 343 (1994)

SYMBOLS USED ON THE LABELS

SYMBOLS USED ON THE LABELS : IVD IN VITRO DIAGNOSTIC USE | SEE PACKAGE INSERT FOR PROCEDURE | LOT LOT NUMBER | MANUFACTURER'S ADDRESS | MANUFACTURING DATE | EXPIRY DATE | TEMPERATURE LIMIT

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CE ISO 9001 : 2008
ISO 13485 : 2003