ACCUCARE™

SGPT - ALT

(Without Pyridoxal Phosphate)
Kinetic UV test - optimised IFCC method

Quantitative Determination of SGPT (ALT) in Serum/Plasma
Only For *In vitro Diagnostic* Use

ORDER INFORMATION

REF	Cont.
GPT 25	1 X 25 ml
GPT 125	5 X 25 ml
GPT 150	3 X 50 ml
GPT 200	4 X 50 ml

CLINICAL SIGNIFICANCE

The ALT is a cellular enzyme, found in highest concentration in liver and kidney. High levels are observed in hepatic disease like hepatitis, diseases of muscles and traumatisms, its better application is in the diagnosis of the diseases of the liver.
When they are used in conjunction with AST aid in the diagnosis of infarcts in the myocardium, since the value of the ALT stays within the normal limits in the presence of elevated levels of AST.
Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.

PRINCIPLE

Glutamic-pyruvic Transaminase (GPT - ALT) catalyses the reaction between alpha - ketoglutaric acid and alanine giving L-glutamic acid and pyruvic acid. Pyruvic acid, in the presence of lactate dehydrogenase (LDH) reacts with NADH giving lactic acid and NAD. The rate of NADH consumption is determined photometrically and is directly proportional to the GPT activity in the sample.

REAGENT COMPOSITION

Reagent I : Buffer reagent
Reagent II : Enzyme reagent

SAMPLE COLLECTION AND PRESERVATION

Serum or plasma.
Stability 7 days at 2 - 8°C.

REAGENT PREPARATION

Mix 4 Parts (4 ml) of Buffer reagent with 1 Part (1 ml) of Enzyme reagent.

REAGENT STORAGE AND STABILITY

Prior to use:
When stored between 2-8°C the reagent is stable until the expiration date stated on the bottle and kit box label.

Reconstituted Reagent:
When stored capped at 2-8°C, the reagent is stable for at least 30 days.

REFERENCE VALUES

Serum/Plasma	: 0 to 40 U/l at 37°C

The reference values are only indicative in nature. Every laboratory should establish its own normal ranges.

AUTOMATED PARAMETERS	
Wavelength	340 nm
Cuvette	1 cm light path
Reaction Temperature	37°C
Measurement	Against distilled w
Reaction Type	Kinetic test
Reaction Direction	Decreasing
Sample Volume	100 µl
Reagent Volume	1000 µl
Delay/Lag/time	60 Secs
Interval time	30 Secs
No. of Readings	04
Blank Absorbance limit	> 0.8
Factor	1746
Low Normal at 37°C	0 U/l
High Normal at 37°C	40 U/l
Linearity at 37°C	400 U/l

MANUAL ASSAY PROCEDURE

PIPETTE INTO TEST TUBES

Working Reagent	1000 µl
Sample	100 µl

Mix well and after 1 min 37°C at 340 nm read absorbance values and start timer simultaneously. Measure absorbance Decrease every 30 sec. during 2 minutes & calculate Δ A /min (Δ A/30 sec X 2)

CALCULATION

ALT (SGPT) U/l = Δ A/min. X 1746

LINEARITY

The method is linear to a concentration of 400 U/l

QUALITY CONTROL

It is recommended to run a normal and a pathological control serum which is commercially available to verify the performance of the measured procedure. The value of controls should fall within the established limit.

NOTES

Very low initial absorbance suggests very high activity of GPT; dilute the samples appropriately and reassay. Multiply results with dilution factor. Procedure &calculation will be the same

BIBLIOGRPHY

Expert Panel on enzyme of the IFCC, Clin. Chem. Acta, 70, PM, (1976), Teitz.,N.W.

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