Alanine Aminotransferase (ALT) Test Kit

(IFCC Method)

【NAME】

Alanine Aminotransferase (ALT) Test Kit (IFCC Method)

【INTEND USE】

This reagent is intended for the in vitro quantitative determination of Alanine Aminotransferase (ALT) in human serum.

ALT is present in high concentrations in the liver and to a lesser extent in kidney, heart and skeletal muscle, pancreas, spleen and lung. Increased levels of ALT however are generally a result of liver disease associated with some degree of hepatic necrosis such as cirrhosis, carcinoma, viral or toxic hepatitis and obstructive jaundice. Characteristically ALT is generally higher than AST in acute viral or toxic hepatitis, whereas for most patients with chronic hepatic disease, ALT levels are generally lower than AST levels. Elevated ALT levels have also been found in extensive trauma and muscle disease, circulatory failure with shock, hypoxia, myocardial infarction and haemolytic disease.

【METHODOLOGY】

$$\text{L -alanine + a-ketoglutarate} \xrightarrow{\text{ALT}} \text{Pyruvic acid + L-glutamic acid}$$

$$\text{Pyruvic acid + NADH + H}^+ \xrightarrow{\text{LDH}} \text{L-lactic acid + NAD}^+ + \text{H}_2\text{O}$$

【STABILITY AND STORAGE】

Unopened, avoid light preservation in 2 ~ 8 ℃, valid for 12 months;

Opened, avoid light preservation in 2 ~ 8 ℃, valid for 1 month.

Reagent is not allowed frozen.

【SPECIMEN COLLECTION AND HANDLING】

It is best to fresh Serum, heparin or EDTA anticoagulant blood plasma.

Do not use hemolysis specimens.

Within 3 days of inactivation: store at 2 ~ 8 ℃: < 10%;

Stability of sample: store at -20℃ can stable 4 weeks.

When the Bilirubin concentrations of sample≤1026 μ mol/L,Triglyceride concentrations≤11.4mmol/L, was not observed clearly disturbance.

【APPLICABLE INSTRUMENT】

Fully automatic biochemical analyzer.

【SYSTEM PARAMETERS】

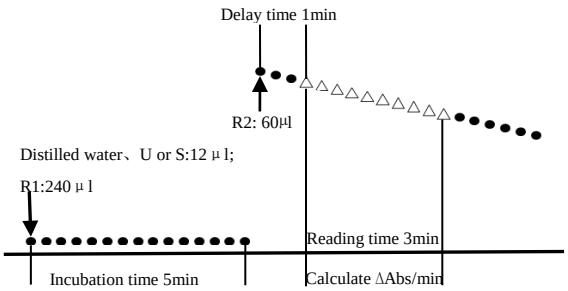
The following system parameters are recommended. Individual instrument applications are available upon request from the Technical Support Group

Temperature	37° C
Cuvette light path	1.0cm
Primary Wavelength	340 nm
Secondary Wavelength	405nm
Assay Type	Rate method
Direction	Decrease
Sample : Reagent Ratio	1:20:5
eg : Sample Vol	12 μL
Reagent1 Vol	240 μL
Reagent2 Vol	60 μL
Linearity	0～800U/L
Testing	Deducting the reagent blank

【OPERATION STEPS】

Double reagent operation:

R1: Reagent 1 R2: Reagent 2 S: Calibrator U: Sample



【CALCULATION】

Use the Calibrator

$$\text{Sample Concentration} = \frac{\text{Sample } \Delta\text{Abs/min}}{\text{Calibrator } \Delta\text{Abs/min}} \times \text{Calibrator Concentration}$$

【REFERENCE RANGE】

Female:<31U/L Male:<41U/L

By clinical trials ,choose no less than 100 women or men blood specimens, tested by automatic biochemical analyzer, and then processing the testing value with statistical method, calculating out the reference range.

Recommendation: The laboratory set up its own reference range!

【THE LIMITATIONS OF TESTING RESULTS】

ALT testing is just one of the standard that clinicist diagnose the patient. Clinical physicians should according to patients' bodies, history and other diagnostic program, to get comprehensive judgment.

【THE INTERPRETATION OF TEST RESULTS】

Human error, the processing of specimen, analysis instrument deviation, etc. all can affect the measurement result;When one sample deviates from the expected value too far, need to be tested again.

【PERFORMANCE INDEX】

1.Reagent blank absorbance≥1.0,(340nm,lcm optical path).

2.Precision: repeatability CV≤10%;batch variations R≤10%.

3.Accuracy: relative deviation ≤10%.

4.Linearity range: 0～800U/L, r≥0.990.

【ATTENTION】

1.Reagent contains sodium azide (toxic) preservatives, avoid contact with skin and mucous membrane.If necessary preventive measures should be taken use of reagents, reagent contact with skin and mucous membrane, please rinse with water, please go to a doctor if necessary.

2.The maximum linearity is 800U/L.If testing results is upper limit, dilute with 0.9% sodium chloride solution before test, results multiplied by the dilution ratio.

3.Liquid waste disposal: Suggest follow local regulations

4.Different batches reagents cannot mix, when replacing reagents batch number, please calibration again.

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