OBio...
Supporting Care to Cure
A Division of Orchard Medical

AST/GOT (IFCC method)

without pyridoxal-5-phosphate

Order Information

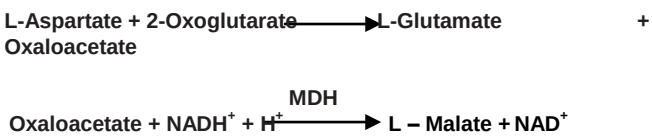
Cat. No.	Kit configuration
OMR1038	Reagent 1: 2 x 40 mL Reagent 2: 2 x 10 mL

Summary

Aspartate aminotransferase (ASAT) is an enzyme found primarily in the liver and kidney. It was originally referred to as serum glutamic oxaloacetic transaminase (SGOT). Normally, a low level of ASAT exists in the serum. ASAT is increased with liver damage and is used to screen for and/or monitor liver disease. Aspartate aminotransferase (ASAT) is usually measured concurrently with ALAT as part of a liver function panel to determine the source of organ damage.

Method

Optimized UV-test according to International Federation of Clinical Chemistry and Laboratory medicine (IFCC modified).



Principle

The rate of NADH consumption is measured photometrically and is directly proportional to the ASAT concentration in the sample.

Reagents Storage Instructions and Stability

Reagent are stable up to the end of the indicated month of expiry, if stored at 2° – 8°C, protected from light and contamination is avoided. Do not freeze the reagents!

Composition

TRIS buffer pH 7.8 25.2 g/L, L – Aspartate 24. g/L, MDH (Malate dehydrogenase) ≥ 600 U/L, LDH (lactate dehydrogenase) ≥ 1200 U/L, 2-Keto glutaric acid 7.9 g/L, NADH 1.1 g/L

Warnings and Precautions

1. Keep out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
2. Take off immediately all contaminated clothing.
3. The reagents contain sodium azide (0.95 g/L) as preservative. Do not swallow. Avoid contact with skin and mucous membranes.
4. For professional use only!

Waste Management

Please refer to local legal requirements.

Reagent Preparation

Mix, 4 parts of reagent 1 and 1 part of reagent 2 = working reagent. The stability of the working reagent is 5 days at 15°-25°C. 4 weeks at 2° - 8°C.
Protect the reaction solution from light.

Materials required but not provided

NaCl solution 9 g/L
General laboratory equipment

Specimen

Serum, heparin, plasma or EDTA plasma separate at the latest 1h after blood collection from cellular contents.
7 days at 2° –8°C
30 days at –20 °C
Only freeze once! Discard contaminated specimens.

Assay Procedure

Wavelength	340 nm
Optical Path	10 mm
Temperature	37°C

Sample Start

Sample	100 µL
Working reagent	1000 µL
Mix and incubate for 1 min. and read absorbance after every 1 min. for 3 min.	

Substrate Start

	Sample/ Calibrator
Sample	100 µl
Reagent 1	1000 µl
Mix and Incubate 5 min. then add	
Reagent 2	250 µl
Mix, Incubate for 1 min. and read absorbance after every 1 min. for 3 min.	

Calculation

ΔA/min and multiply by the corresponding factor from table below:
ASAT activity U/L = ΔA/min x factor.

Factor

Sample start	340 nm	1745
Substrate start	340 nm	2143

Conversion Factor

To convert to SI Units (nkat/L) multiply IU/L by 16.67.

Quality Controls

For internal quality control any normal and abnormal controls should be assayed with each batch of samples. Each laboratory should establish corrective action in case of deviations in control recovery.

Performance Characteristics Measuring Range

The test has been developed determine ASAT/GOT activities within a measuring range from 5 - 1000 U/L. If such value is exceeded the sample should be diluted 1 + 9 with NaCl solution (9 g/L) and results multiplied by 10.

Interferences

No interference was observed by, Ascorbic acid upto 30 mg/dL, Bilirubin upto 40 mg/dL and Triglycerides upto 2000 mg/dL

Sensitivity/Limit of Detection

The lower limit of detection is 5 U/L

Linearity

Linearity of detection is 1000 U/L.

Precision

Intra-assay n = 20	Mean (U/L)	SD (U/L)	CV (%)
Sample 1	23.14	0.39	1.67
Sample 2	121.15	2.19	1.81

Inter-assay n = 20	Mean (U/L)	SD (U/L)	CV (%)
Sample 1	26.22	0.48	1.84
Sample 2	151.56	2.38	1.57

Method Comparison

A comparison of Nucleus Diagnosys ASAT/GOT (y) with a commercially available test (x) using 15 samples gave following results:
$y = 0.549x + 17.48$; $r^2 = 0.991$.

Reference Range

Women	< 31 U/L
Men	< 37 U/L

Each laboratory should check if reference ranges are transferable to its own patient population and determine own reference ranges if necessary.

Literature

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