Biomaghreb

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CE

GOT - ASAT

Kinetic Test. IFCC Without Pyridoxal phosphate

Quantitative determination of aspartate amino transferase activity (EC 2.3.2.2) in human

IN VITRO DIAGNOSTIC USE

IVD

REF	**10018**	**20 x 3 ml (60 T)**	**R1:** 1 x 65 ml	**R2:** 20 Lyophilisates
REF	**10025**	**10 x 10 ml (100 T)**	**R1:** 1 x110 ml	**R2:** 10 Lyophilisates
REF	**10032**	**10 x 3 ml (30 T)**	**R1:** 1 x 35 ml	**R2:** 10 Lyophilisates
REF	**10049**	**2 x 110 ml (220 T)**	**R1:** 2 x110ml	**R2:** 2 Lyophilisates

CLINICAL SIGNIFICANCE

ASAT (aspartate amino-transferase), formerly known as Glutamate Oxaloacetic Transaminase (GOT), is an enzyme located mainly in heart and liver cells, and to a lesser extent in muscle cells. When these cells are altered, they release the enzyme into the bloodstream. ASAT activity is therefore measured as part of a liver workup in patients with viral hepatitis, liver necrosis or cirrhosis; or cardiac necrosis (following a myocardial infarction). Its result is usually interpreted with those of alkalin phosphatase (PAL), and Alanine Amino-transferase (ALAT). In some cases, ALAT activity increases in acute muscular dystrophy or pancreatitis.

PRINCIPLE

The reaction is initiated by adding the sample to the reagent according to the following reaction scheme:

$$2\ \text{oxoglutarate} + \text{L-Aspartate} \xrightarrow{\text{GOT}} \text{Glutamate} + \text{oxaloacetate}$$

$$\text{Oxaloacetate} + \text{NADH} + \text{H}^+ \xrightarrow{\text{MDH}} \text{Malate} + \text{NAD}^+$$

The rate of decrease in NADH concentration is directly proportional to the aspartate amino transfer activity in the sample.

MDH: Malate Dehydrogenase

REAGENT COMPOSITION

Reagent 1 Buffer	Buffer Tris pH 7.8 à 30°C L- aspartate	80 mmol/l 200 mmol/l
Reagent 2 Substrate	NADH LDH MDH Oxoglutarate	0,18 mmo/l 800 UI/l 600 UI/l 12 mmol/l

SAFETY CAUTIONS

Biomaghreb reagents are intended for use by qualified personnel for in vitro use (do not pipette by mouth).

- Refer to the current MSDS available on request or on www.biomaghreb.com.
- Check the integrity of the reagents before use.
- Disposal of waste: comply with applicable legislation.

For safety reasons, treat any specimen or reagent of biological origin as potentially infectious. Observe the applicable legislation.

REAGENT PREPARATION

Working solution:
Mix the substrate with 3 ml REF (10018) and REF (10032) or 10 ml REF (10025) of buffer R1.
For REF (10049) reconstitute each R2 with one vial R1.

SAMPLE COLLECTION AND HANDLING

Heparinized serum or plasma without hemolysis.

PRESERVATION AND STABILITY

Stored in the original, tightly stoppered bottle at 2-8°C, the reagents are stable if used and stored under the recommended conditions:

- Before opening: Until the expiry date indicated on the label of the box at +4°C;
- After opening : (Working Solution):
  24 hours at 20-25°C;
  7 days at 2-8°C.

ADDITIONAL EQUIPMENT

- Basic equipment of the medical analysis laboratory ;
- Spectrophotometer or Clinical Biochemistry Analyzer.

LIMITS

Hemolysis can interfere.

QUALITY CONTROL

External quality control program.

It is recommended to control in the following cases:

- At least one test per series.
- Change of reagent bottle.
- After maintenance work on the analyzer.

If a control value is outside the confidence limits, repeat the procedure using the same control.

Use normal and pathological control sera.

LINEARITY

If the ΔDO/min at 340 nm is greater than 0.15, repeat the test by diluting the sample 1:10 with a 9 g/l NaCL solution.

Multiply the result by 10.

PROCEDURE

Wavelength: 340 nm ;

Temperature : 25 – 30 or 37°C ;

Tank: 1 cm thick;

Adjust the spectrophotometer zero to air or distilled water.

Working solution	1 ml	3 ml
Pre-incubate at the selected temperature (25, 30 or37°C).		
Sample	100 µl	300 µl
Mix and incubate 1 minute. Measure the decrease in optical density per minute for 1 to 3 minutes.		

CALCULATION

At wavelength 340 nm,

Δ DO / min x 1750 = IU/l.

REFERENCE VALUES

	25°C	**30°C**	**37°C**
Women	Up to 16 UI/l	Up to 22 UI/l	Up to 31UI/l
Men	Up to 19UI/l	Up to 26 UI/l	Up to 38UI/l

REFERENCES

Bergmeyer H; Bower and Cols. Clin. Chim Acta 70, (1976);

Bergmeyer H et Wahiegeld Clin. Chem 24, 58 (1978) ;

IFCC, Méthod for L-Aspartate aminotransferase, J Clin Chem. Clou Biachem (1986) 24. P497-510.

Manufacturer | Use by | In Vitro Diagnostic | Temperature Limitation | Catalogue number | See insert | Store away from light | Sufficient for < n > essais | Batch number