URIC ACID

Trinder method – Endpoint

4 x 50 ml **CL02-200S**
4 x 100 ml **CL02-400S**

INTENDED USE

Kit for quantitative determination of Uric Acid in serum and plasma according to Trinder reaction.

CLINICAL MEANING

Uric acid is the result of cellular metabolism, produced after the degradation of purines. The concentration of uric acid in the blood is the result of its production by the organism and its elimination through urine.

PRINCIPLE

Uricase transforms uric acid into allantoin, and forms hydrogen peroxide which, in presence of peroxidase (POD), reacts with ethyl-sulphopropyl-toluidine (ESPT) and 4-aminophenazone, to produce a colored complex. The intensity of the color is directly proportional to the concentration of uric acid in the sample.

SAMPLE

Serum, plasma. Avoid hemolized samples.
High concentrations of reducing substances (ascorbic acid, glutathione, cysteine) cause falsely low values.
STABILITY: 3-5 days at 2-8°C, 6 months at -20°C.

REAGENTS

Only for in Vitro diagnostics. Liquid monoreagent ready to use.

Package content	**CL02-200S**	**CL02-400S**
REAGENT 1 Phosphate/borate buffer (pH 7,0) 180 mmol/L, ESPT 1 mmo/L, 4-aminophenazone 0,25 mmol/L, uricase > 50 U/L, POD > 100 U/L, sodium azide 15 mmol/L	**4 x 50 ml**	**4 x 100 ml**
STANDARD Uric acid 5 mg/dl (297,5 μmol/L), sodium azide 15 mmol/L	**1 x 4 ml**	**1 x 4 ml**

Stability: Store at 2-8°C and protect from light to keep the reagents stable up to the expiration date on the label. Once opened the reagents are stable for 2 months at 2-8°C if contamination is avoided. Keep bottles closed when not in use.

NECESSARY ITEMS – NOT PROVIDED

Usual laboratory equipment: UV/VIS Spectrophotometer with temperature control; automatic micropipettes; Optical glass cuvettes or, alternatively, disposable ones in optical polystyrene; Saline solution.

MANUAL ASSAY PROCEDURE

Wavelength:	550 nm (540 - 560)
Optical path:	1 cm
Temperature:	37°C
Method:	increasing endpoint
Reaction time:	10 minutes
Reading:	against blank reagent
Sample/Reagent Ratio:	1/40

Bring the reagent to the chosen temperature for the analysis.
Pipette in cuvette:

	Blank Reagent	Standard	Sample
Distilled water	25 μl	-	-
Standard	-	25 μl	-
Sample	-	-	25 μl
Reagent 1	1,0 ml	1,0 ml	1,0 ml

Stir and incubate for 10 minutes at 37°C. Read the absorbance of the standard (AbsStd) and the sample (AbsS) against the blank reagent.
Reaction volumes can be proportionally varied without any change in calculation.

CALCULATION

Calculate the concentration in the sample using the following formula:

[mg/dl] uric acid = AbsS / AbsStd x 5

[μmol/L] uric acid = AbsS / AbsStd x 297,5

REFERENCE VALUES

Serum / plasma:

male: 3,6 ÷ 7,7 mg/dl (214 ÷ 458 μmol/L)
female: 2,5 ÷ 6,8 mg/dl (149 ÷ 405 μmol/L)

Each laboratory should define its own reference values for this method.

QUALITY CONTROL – CALIBRATION

A quality control program is recommended for all clinical laboratories.
Control serums of human origin are available for this purpose on request:
PRE-NORM serums with normal values
PRE-PATH serums with pathological values
If the method requires it, a multi-parameter calibrator of human origin is available (REF 7532).

PERFORMANCE CHARACTERISTICS

Sensitivity: the sensitivity of the method is 0,2 mg/dl.

Linearity: up to 25 mg/dl (1487,5 μmol/L).
For higher values, dilute the samples 1:5 with saline solution and multiply the result by 5.
Precision

Within run (n=10)	Average [g/dl]	SD	CV %
Sample 1	3,50	0,11	3,3
Sample 2	9,03	0,05	0,6

Between-run (n=20)	Average [g/dl]	SD	CV %
Sample 1	3,57	0,12	3,5
Sample 2	8,96	0,21	2,4

Interferences: Up to 5 mg/dl of bilirubin does not interfere. Up to 0,3 mg/dl of haemoglobin does not interfere.

In case of highly lipemic or icteric samples, it is recommended to prepare a Blank Sample (25 μl of sample + 1,0 ml of saline solution). Read the absorbance of this blank sample against distilled water and deduct it from the sample absorbance (AbsS).
Correlation against a reference method: the correlation of the method (Y) against a reference method (X) gives this equation:

Y = 0,8717X + 0,2515 r = 0,9851

DISPOSAL

The product must be used for professional analysis only. The product must be disposed of according to national/international laws.

WARNINGS AND PRECAUTIONS

The reagents may contain non-reactive components and various preservatives. Contact with the skin and ingestion should be avoided. Use the normal precautions expected with correct behaviour in laboratory.

REFERENCES

1 Barham D. E., Trinder P., Analyst, 97, 142 (1972)
2 Fossati P., Prencipe L., Berti G., "Clin. Chem.", 26, 227 (1980)
3 Kaplan LA, Pesce AJ: "Clinical Chemistry", Mosby Ed. 1989

MANUFACTURER

FAR
Via Fermi, 12 - 37026 Pescantina - VERONA - ITALY
tel +39 045 6700870
website http://www.fardiag.com
e-mail: order@fardiag.com e-mail: fardiag@fardiag.com

KEY SYMBOLS

IVD	In Vitro diagnostic medical device
LOT	batch number
REF	catalogue number
	temperature limits
	use by
	caution
	consult accompanying documents

Issue 01 - 18/01/2021 RR