URIC ACID SL

Enzymatic colorimetric method
Liquid Reagents ready to use

REF. 4050/50 2x 50 ml
REF. 4050 2x100 ml
REF. 4059 4x100 ml

CE IVD

Azienda certificata DNV

GIESSE DIAGNOSTICS

INTENDED USE

Quantitative determination of Uric acid in serum, plasma, urine.

PRINCIPLE

Uricase transforms uric acidinto allantoin with formation of hydrogen peroxide which, in presence of peroxidase (POD), reacts with 4- aminoantipyrine and 3-hydroxy-2,4,6-triiodobenzoic acid to produce a colored complex whose color intensity is directly proportional to the uric acid concentration in the sample.

SAMPLE

Serum, plasma with heparin or EDTA, urine.
Dilute urine 1:10 with saline. If urine sample is turbid, heat it for 10 minutes in a waterbath at 60°C, then centrifuge and make the dilution.
High concentrations of reducing substances (ascorbic acid, glutathione, cysteine) cause falsely low values.
Uric acid in the sample is stable 3-5 days at 2-25°C and 6 months at -20°C.

KIT COMPONENTS

Reagent (A) UA Volume = 40/80 ml	Phosphate buffer stain K Ferrocyanide	100 mmol/l 1.10 mmol/l 100 µmol/l
Reagent (B) UA Volume = 10/40/80 ml	Phosphate buffer 4-AAP Uricase Peroxidase	100 mmol/l 0.37 mmol/l 220 U/l 1000 U/l
Standard UA Volume = 5 ml	Sodium azide Derivative Uric Acid **(value on label)**	6 mmol/l

The reagents are stable until the expiration date indicated on the label if stored at 2-8°C and protected from light. Do not freeze. Once opened reagents are stable for 2 months at 2-8°C if contamination is avoided.
Keep bottles closed when not in use.

REAGENT PREPARATION

Liquid Reagents, bring to room temperature (15-25°C) before use.
For **use as monoreagent**: add a part of Reagent (B) to 4 parts of Reagent (A).
The working solution(A+B) is stable 7 days at 15-25°C and 2 weeks at 2-8°C, protected from light.

PRECAUTIONS AND WARNINGS

Reagent may contain some non-reactive and preservative components. It is suggested to handle carefully it, avoiding contact with skin and swallow.
Use the normal precautions required in the laboratory.
Dispose of waste according to local laws.

PROCEDURE

Wavelength:	510 nm (500 – 520)
Lightpath :	1 cm
Temperature:	37°C
Reading:	against blank reagent
Method:	Increasing End Point
Sample/Reagent:	1/40 – 1/50

Use as bireagent:

pipette:	blank	sample	standard
Reagent (A)	1000 µl	1000 µl	1000 µl
water	25 µl		
sample		25 µl	
standard			25 µl

Mix, incubate 1 minute, then add:

Reagent (B)	250 µl	250 µl	250 µl

Mix, incubate at 37°C 5 minutes.
Read the absorbance of the sample (Ax) and the standard (As) against blank reagent.

Use as monoreagent:

pipette:	blank	sample	standard
Reagent (A+B)	1000 µl	1000 µl	1000 µl
water	25 µl		
sample		25 µl	
standard			25 µl

Volumes can be proportionally modified.
This method describes the manual procedure to use the kit.
For automated procedure, ask for specific applications.

RESULTS CALCULATION

Serum/plasma:

Uric acid mg/dl = Ax/As x standard value

Conversion Factor mg/dl to µmol/l = 59.5

Urine 24h (uric acid mg/24h):

Uric acid mg/24h = Ax/As x std value x 10 (dilution) x urine 24 h Volume (dl)

EXPECTED VALUES

Siero/plasma:

Men:	**3.5 – 7.2 mg/dl**	**(0.21 – 0.42 mmol/l)**
Women:	**2.6 – 6.0 mg/dl**	**(0.15 – 0.35 mmol/l)**
Urine 24h:	**250 – 750 mg/24h**	**(1.50 – 4.50 mmol/l)**

Each laboratory should establish appropriate reference intervals related to its population.

QUALITYCONTROL

You must perform the controls at each kit's use and verify that the values obtained are within the reference range reported in the operating instructions. For this purpose we recommend the use of control sera: PRECISENORM (REF.6000) and PRECISEPATH (REF.6001).

PERFORMANCE

Sensitivity: the sensitivity of the method is: 1 mg/dl.
Linearity: the method is linear up to 25 mg/dl. For higher values, dilute the sample 1:5 and multiply the result by 5.
Precision intra-assay:

	Level1	Level 2	Level 3
Mean(mg/dl)	2.50	6.07	11.47
DS	0.020	0.053	0.048
CV %	0.81	0.86	0.42

Precision inter-assay:

	Level 1	Level 2	Level 3
Mean (mg/dl)	2.63	6.61	12.47
DS	0.032	0.069	0.116
CV %	1.20	1.05	0.93

Interferences: 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 (Ax). Bilirubin does not interfere up to 10 mg/dl. Triglycerides up to 1000 mg/dl do not interfere.
Correlation against a reference method: Y = 0,8717x + 0.2515 r = 0.9851

REFERENCES

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