ACCUCARE

URIC ACID-SLR

Enzymatic colorimetric method

Quantitative determination of Uric acid in Serum
Only for *In Vitro* Diagnostic use

ORDER INFORMATION

REF	Cont.
URISLR 25	1 X 25 ML
URISLR 125	5 X 25 ML
URISLR 200	2 X 100 ML
URISLM 25	25 X 1 ML

CLINICAL SIGNIFICANCE

Uric acid and its salts are end products of the purine metabolism. With progressive renal insufficiency, there is retention in blood of urea, creatinine and uric acid. Elevate uric acid level may be indicative of renal insufficiency and is commonly associated with gout. Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.

PRINCIPLE

Uric acid is converted by uricase to allantoin and hydrogen peroxide, which under the catalytic influence of peroxidase, oxidises 3, 5 - dichloro - 2 - hydroxybenzenesulfonic acid and 4- aminophenazone to form a red-violet quinoneimine compound.

REAGENT COMPOSITION

Reagent1 : Uric Acid Reagent
Standard : Uric acid Standard 5 mg/dL (0.3 mmol/L)

SAMPLE COLLECTION AND PRESERVATION

Serum: Use unhaemolysed serum.
Plasma: Use heparinised plasma.
Urine: 24 hour specimens stabilised with 15 mL of 2 mol/L NaOH. Upon receipt, the pH should be checked. It should be maintained at a pH between 8.0-8.5.
Storage: Serum and plasma samples are stable for at least 3 days at room temperature (18-25°C) and for at least 6 months frozen. Urine samples are stable for 5 days at room temperature (18-25°C).

REAGENT PREPARATION

The reagent is provided in a ready to use format.

REAGENT STORAGE AND STABILITY

Reagent and Standard are stable until the expiry date shown on the label when stored tightly closed at 2 – 8 °C and if contaminations are prevented during their use.

REFERENCE VALUES

Child	0.12 - 0.33 mmol/L	2.0 - 5.5 mg/dL
Adult Male	0.21 - 0.43 mmol/L	3.5 - 7.2 mg/dL
Adult Female	0.15 - 0.36 mmol/L	2.6 - 6.0 mg/dL
Urine	14.9 - 44.6 mmol/day	250 - 750 mg/day

AUTOMATED PARAMETERS	
Wavelength	505 nm (490-550 nm)
Reaction Type	End Point
Cuvette	1 cm light path
Reaction Temperature	37°C
Reaction Type	Increasing
Measurement	Against Reagent Blank
Sample Volume	25µl
Reagent Volume	1000 µl
Incubation	10 minutes
Blank Absorbance Limit	< 0.200
Low Normal	2.4 mg/dL (0.14 mmol/L)
High Normal	7.2 mg/dl (0.43 mmol/L)
Linearity	25.0 mg/dL (1.50 mmol/L)

MANUAL ASSAY PROCEDURE

PIPETTE INTO TEST TUBES

	BLANK	STD	SAMPLE
Sample	-	-	25µl
Standard	-	25µl	-
Reagent	1000µl	1000µl	1000µl

Mix & Incubate for 10 min. at 37 ^{0}C. Measure absorbance of Sample (AT) and Standard (AS) against Reagent Blank at 505 nm. The colour is stable for 30 min. at R.T.

CALCULATION

Uric acid (mg/dl) = AT/AS x Conc of Standard

LINEARITY

This method is linear upto a concentration of 25 mg/dl.
Dilute samples above this concentration 1:1 with 0.9% saline and Repeat assay. Multiply the result by 2.

INTERFERENCES

Haemoglobin: No interference up to 1000 mg/dl or 621 µmol/l
Bilirubin: No interference up to 684 mmol/L(40 mg/dL).
Lipaemia: No interference from lipaemia, measured as triglycerides up to 2000 mg/dl or 22.8 mmol/l.
Ascorbate: No interference from ascorbate up to 30 mg/dL.

QUALITY CONTROL

It is recommended to run a normal and a pathological control serum which is commercially available to verify the performance of the measured procedure. The value of controls should fall within the established limit.

BIBLIOGRAPHY

1. Caraway , WT Clinchem 4,239(1963).
2. Morin LG Clinchem,20,51(1974).
3. Trivedi RC Rebar L.,Berka E.,Strong L.,Clinchem.,(1978),24,1908.

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