URIC ACID KIT

(Uricase / PAP method)

For the determination of Uric Acid in serum or plasma.

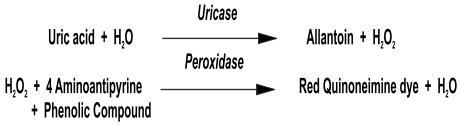
(For Invitro Diagnostic Use Only)

Summary

Uric acid is the end product of purine metabolism. Uric acid is excreted to a large degree by the kidneys and to a smaller degree in the intestinal tract by microbial degradation. Increased levels are found in Gout, arthritis, impaired renal functions,and starvation. Decreased levels are found in Wilson's disease, Fanconis syndrome and yellow atrophy of the liver.

Principle

Uricase converts uric acid to allantoin and hydrogen peroxide. The hydrogen peroxide formed further reacts with a phenolic compound and 4 aminoantipyrine by the catalytic action of peroxidase to form a red coloured quinoneimine dye complex. Intensity of the colour formed is directly proportional to the amount of uric acid present in the sample.



Normal reference values

Serum / Plasma	(Males)	:	3.4 - 7.0 mg/dl
	(Females)	:	2.5 - 6.0 mg/dl

It is recommended that each laboratory establish its own normal range representing its patient population.

Contents

	25 ml	75 ml	2 x 75 ml	2 x 150 ml
L1 : Buffer Reagent	20 ml	60 ml	2 x 60 ml	2 x 120 ml
L2 : Enzyme Reagent	5 ml	15 ml	2 x 15 ml	2 x 30 ml
S : Uric Acid Standard (8 mg/dl)	5 ml	5 ml	5 ml	5 ml

Storage / stability

Contents are stable at 2-8^{0}C till the expiry mentioned on the labels.

Reagent Preparation

Reagents are ready to use.

Working reagent : Pour the contents of 1 bottle of L2 (Enzyme Reagent) into 1 bottle of L1 (Buffer Reagent). This working reagent is stable for at least 4 weeks when stored at 2-8^{0}C. Upon storage the working reagent may develop a slight pink colour however this does not affect the performance of the reagent.

Alternatively for flexibility as much of working reagent may be made as and when desired by mixing together 4 parts of L1 (Buffer Reagent) and 1 part of L2 (Enzyme Reagent). Alternatively 0.8 ml of L1 and 0.2 ml of L2 may also be used instead of 1 ml of the working reagent directly during the assay.

Sample material

Serum, plasma. Uric Acid is reported to be stable in the sample for 3 -5 days when stored at 2-8^{0}C.

Procedure

Wavelength / filter : 520 nm (Hg 546 nm) / Yellow Green
Temperature : 37^{0}C / R.T.
Light path : 1 cm

Pipette into clean dry test tubes labelled as Blank (B), Standard (S), and Test (T) :

Addition Sequence	B (ml)	S (ml)	T (ml)
Working reagent	1.0	1.0	1.0
Distilled water	0.02	-	-
Uric Acid Standard (S)	-	0.02	-
Sample	-	-	0.02

Mix well and incubate at 37^{0}C for 5 min. or at R.T. (25^{0}C) for 15 min. Measure the absorbance of the Standard (Abs.S), and Test Sample (Abs.T) against the Blank, within 30 Min.

Calculations

$$\text{Uric Acid in mg/dl} = \frac{\text{Abs.T}}{\text{Abs.S}} \times 8$$

Linearity

This procedure is linear upto 20 mg/dl. If values exceed this limit, dilute the serum with normal saline (NaCl 0.9%) and repeat the assay. Calculate the value using the proper dilution factor.

References

Trinder, P., (1969) Ann. Clin. Biochem. 6 : 24
Fossati, P., Prencipe, L., (1980) Clin. Chem. 26 : 227

System Parameters

Reaction	:	End Point
Wavelength	:	520 nm
Zero Setting	:	Reagent Blank
Incub. Temp.	:	37^{0}C / R.T.
Incub. Time	:	5 min. / 15 min.
Delay Time	:	---
Read Time	:	---
No. of read.	:	---
Interval	:	---
Sample Vol.	:	0.02 ml
Reagent Vol.	:	1.00 ml
Standard	:	8 mg/dl
Factor	:	---
React. Slope	:	Increasing
Linearity	:	20 mg/dl
Units	:	mg/dl

UAC(2Rgt):02(P)

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