ESTROM Uric Acid (Lypho)
(Uricase Method)

This reagent kit is for quantitative estimation of Uric Acid in serum, plasma or urine.

PRINCIPLE:
The substrate Uric Acid is converted into allantoin and hydrogen peroxide by the action of Uricase Chromogen, 4-aminoantipyrine and phenolic compound combined with hydrogen peroxide in presence of peroxidase gives coloured complex. The intensity of colour corresponds to uric acid concentration and is measured at 505 nm (490-530 nm) or with green filter.

$$\text{URIC ACID} + O_2 + H_2O \xrightarrow{\text{URICASE}} \text{ALLANTOIN} + CO_2 + H_2O_2$$

$$H_2O_2 + \text{4-AMINOANTIPYRINE} + \text{PHENOLIC COMPOUND} \xrightarrow{\text{PEROXIDASE}} \text{COLOURED COMPLEX}$$

CLINICAL SIGNIFICANCE:
Uric Acid is main end point product of nucleic acids and purine metabolism. Elevated levels are seen in clinical conditions like gout and renal failure. Acute infectious diseases severe uremia, toxemia of pregnancy and leukemia also causes increase level of uric acid. Low level of uric acid is seen in renal tubular syndrome.

SPECIMEN COLLECTION AND STORAGE:
FRESH Fasting unhemolysed serum sample is preferred.
Plasma collected with heparin or EDTA as anti coagulant may be used.
Samples are stable for 2 days when stored at 2-8°C.
Urine sample collected for 24 hours period using 5% Sodium Hydroxide as preservative should be diluted 10 times using distilled water before uric acid determination.

PRECAUTION:
Estrom Uric Acid reagent is for invitro diagnostic use only.

REAGENTS:
All the reagents are to be stored at 2-8°C

	No. of bottles	
	12x1.1 ml	5x10 ml
Reagent 1 (Enzyme Chromogen)	12	5
Reagent 2 (Phenol)	1	5
Standard (6 mg/dl)	1	1

REAGENT RECONSTITUTION:

A) **12x1.1 ml and 10x5 ml/5x10 ml :** Add Reagent 2(Buffer) to the vial containing Reagent 1 (Enzyme Chromogen).Mix gently.
B) **20x25 ml & 5X20 ml:** Transfer the contents of 1 vial of Regent 1 (Enzyme Chromogen) to the bottle containing reagent 2 (Buffer). Mix gently.

REAGENT STORAGE AND STABILITY:

All reagents are stable up to expiry date indicated on the bottle label.

Working reagent is stable for 90 days at 2-8°C.

GENERAL INSTRUMENT PARAMETERS:

Reaction Type	: End Point
Slope of Reaction	: Increasing
Wavelength	: 505 nm (490-530 nm)
Flowcell Temperature	: 37° C
Reagent Volume	: 1.0 ml
Sample Volume	: 25 µl (0.025 ml)
Standard Concentration	: 8 mg/dl
Units	: mg/dl
Incubation	: 5 Minutes
Zero Setting	: Reagent blank
Path length	: 1.0 cm

PROCEDURE:
Allow the sample and reagent to attain room temperature prior to use.

For 1 ml

	Blank	Standard	Test
Reagent	1.0 ml	1.0 ml	1.0 ml
Standard	-	25 µl	-
Sample	-	-	25 µl

Incubate at 37° C for 5 minutes. Mix well and read at 505 nm (490-530 nm) or against green filter

The colour of the reaction mixture is stable for 30 minutes when stored at room temperature, protected from light.

LINEARITY:
This method is linear for Uric Acid values up to 25 mg/dl. For sample with values higher than 25 mg/dl, dilute the sample using normal saline and repeat the assay. Apply proper dilution factor while calculation.

CALCULATIONS:

$$\text{Conc. of Uric Acid in sample (mg/dl)} = \frac{\text{Abs. Test}}{\text{Abs. Std}} \times 8$$

$$\text{Conc. of Uric Acid in sample (mg/dl)} = \frac{\text{Abs. Test}}{\text{Abs. Std}} \times 8 \times \text{Dilution factor}$$

REFERENCE VALUE:
Male : 3.2-7.0 mg/dl
Female : 2.6- 6.0 mg/dl
In Urine : 400 – 900 mg / 24 hours.

It is recommended that each laboratory establish its own reference values.

BIBLIOGRAPHY:

- Barham, D, & Trinder P, Analyst 97 (19720 142-145.
- TRIVEDI R.C, Reber, L.Berka, E, And Strong I. Clin. Chem 24 : 1908 (1978)

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	Attention,see instructions for use		Consult Instructions For Use
IVD	For in vitro diagnostic use only	REF	Catalog #
2°C 8°C	Store between 2-8°C	LOT	Lot Number
	Do not use if package is damaged		Date of Manufacturing
	Manufacturer		Use by