AGD
CliniPak

URIC ACID

(Uricase/POD)

Code	Pack Size
AGDSP - UA160	8 X 20 mL
AGDSP - UA144	8 x 18mL

INTENDED USE

Uric Acid is a reagent set for in vitro quantitative determination of Uric acid concentration in serum.

CLINICAL SIGNIFICANCE

Serum or plasma uric acid determination has an important diagnostic value in gout and kidney failure. In human body uric acid is the end product of purine metabolism.
It is excreted by kidney.

Increased Levels : are observed in acute stages of infectious diseases, severe uremia, toxemia of pregnancy and leukemia. Uric acid determination is also used for Uric acid clearance test.

PRINCIPLE

Uricase trans forms Uric acid in the sample into Allantoin, Carbondioxide (CO_2) and Hydrogen Peroxide (H_2O_2). By the action of peroxidase (POD) and in the presence of phenol
- derivative,DHBS and 4- Aminoantipyrine, Hydrogen peroxide gives a coloured indicator reaction which can be measured at 520nm. The increase in absorbance correlates with (is proportional to) the uric acid concentration of the sample.

$$\text{Uric acid} + 2H_2O_2 + 2O_2 \xrightarrow{\text{URICASE}} \text{Allantoin} + C_2O + H_2O$$

$$2H_2O_2 + \text{4-Aminoantipyrine} + \text{DHBS} \xrightarrow{\text{Peroxidase}} \text{Red quinone} + 4H_2O$$

PROCEDURE

Reagent (300µL) + Sample (7.5 µL) + Incubation (300Sec) ⟶ Measurement (505nm)

REAGENT COMPOSITION

Good buffer	≈ 100 mmol/L
Peroxidase	≈ 140 IU/L
Uricase	≈ 25 IU/L
Chromogen	≈ 2.5µmol/L

REAGENT STORAGE AND STABILITY

Uric Acid is a reagent system ready to use.
The reagent is stable till the expiry date stated on the reagent bottle label when stored at 2-8°C protected from light.

SAMPLE

Collected sample using standard sampling tube assay.
Serum should be free of hemolysis.

BASIC PARAMETER

SHORT NAME	UA
NAME	Uric acid
METHOD	Uricase/POD
ASSAY	End point (Two point reagent blank)
MAIN WAVE	505nm
SUB WAVE	0
DECIMAL	2
UNIT	mg/dL
R1 VOLUME	300 µL
INCUBATION	36secs
R2 VOLUME	0 µL
SAMPLE VOLUME	7.5 µl
INCUBATION	0
MIXING SPEED	0
REACTION TIME (DELAY)	260 secs
CHECK TIME (READ)	40 secs
LINEAR RANGE	0 -20
ABSORBANCE RANGE	0-2.5
CALIBRATION TYPE	SINGLE SPOT LINEARITY
DILUTION RATIO	6
SAMPLE VOLUME	50

*Enter calibrator value as per the lot of calibrator and method.

LINEARITY

Reagent is linear up to 20 mg/dL.
Dilute the sample appropriately and re-assay If uric acid concentration exceeds 20mg/dL.Multiply results with dilution factor.

PRECISION

Reproducibility of within run, determined using quality control sera as shown below.

n=15

Quality control material	Mean mg/dL	SD mg/dL	% CV
Low Control serum	6.72	0.069	1.03
High Control serum	8.78	0.063	0.71

REFERENCE NORMAL VALUE

Female : 2.5 - 6.0mg/dL(25-60mg/L) Male : 3.4 - 7.0 mg/dL (34 - 70mg/dL) Urine : 250 -750 mg/24h

QUALITY CONTROL

To ensure adequate quality control,it is recommended that the laboratory should use a normal and abnormal commercial reference control serum.The quality control material is used to check the function of reagents and the machine together.

LIMITATIONS & PRECAUTIONS

- Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
- Storage condition as mentioned on the kit to be adhered.
- Before the assay bring all the reagents to the room temperature.
- Avoid contamination of the reagent during assay process.
- Use clean glassware free from dust and debris.
- Reagent to sample ratio as mentioned above must be strictly adhered, as any changes it affects the factor and result.
- In case reagent comes in contact with eyes,immediately rinse with plenty of water and seek medical advice.

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