PATHOZYME DIAGNOSTICS

LIQVIPATH UREA

(MODIFIED DAM METHOD)

CAT No.: URD

Reagent kit for quantitative estimation of Urea in Serum, Plasma, or Urine.

DIAGNOSTIC SIGNIFICANCE:

Increased urea levels can occur in liver diseases, congestive heart failure, diabetes, infections and in diseases which impair kidney functions. It is also increased in adrenocortical insufficiency, acute intestinal occlusion; various poisonings, shocks, urine retention, and raised protein break down. Decreased levels are seen in malnutrition, hepatic failure & pregnancy.

PRINCIPLE:

Urea in an acidic medium condenses with Diacetyl Monoxime at 100°C to form a red coloured complex. Intensity of the colour formed is directly proportional to the amount of Urea present in the sample. The intensity of colour produced is measured photometrically at **520 nm (510-530 nm) or GREEN Filter**.

Urea + Diacetyl Monoxime $\xrightarrow{100°C}$ Red Coloured Complex

SPECIMEN COLLECTION:

Serum, Plasma or Urine is required.
Urine should be of 24 hours collection. Dilute the urine specimen 1:20 with distilled / deionised water before the assay. Multiply the final results by 20.

KIT PRESENTATION:

PACK SIZE	2 X 50 ml	4 X 50 ml
R1-Urea (DAM Reagent)	1 X 50 ml	2 X 50 ml
R2-Urea (Acid Reagent)	1 X 50 ml	2 X 50 ml
Urea Standard (40mg/dl)	1 X 01 ml	1 X 02 ml

PREPARATION OF WORKING REAGENT:

R1-Urea (DAM Reagent) & R2-Urea (Acid Reagent) are **Ready To Use.**

REAGENT STORAGE & STABILITY:

All reagents included in the kit are stable at RT until the expiry date stated on the label.

ASSAY PARAMETERS:

Reaction	: End point	Zero Setting	: Reagent Blank
Wavelength	: 520 nm (510-530)	Sample Vol.	: 10 µl
Filter	: GREEN	R1 + R2 Vol.	: 1.0ml + 1.0ml
Incub. Temp	: 100 °C (Boiling)	Std Conc.	: 40 mg/dl
Incubation	: 10 minutes	Linearity	: 200 mg/dl

PROCEDURE:

Pipette into TT	Blank	Standard	Test
R1-Urea (DAM Reagent)	1.0 ml	1.0 ml	1.0 ml
R2-Urea (Acid Reagent)	1.0 ml	1.0 ml	1.0 ml
Urea Std (40 mg/dl)	--	10 µl	--
Sample (Test)	--	--	10 µl
Distilled Water	10 µl	--	--

Mix well and keep the test tubes in boiling water (100°C) for 10 minutes. Cool for 5 minutes under running tap water and measure the absorbance of the Standard (Abs. Std) and Test Sample (Abs. Test) against the Reagent at **520 (510-530) nm or GREEN filter.**

STABILITY OF REACTION MIXTURE:

The colour of final reaction mixture is stable for 30 minutes.

CALCULATION:

$$\text{Serum / Plasma Urea (mg /dl)} = \frac{\text{Abs. Test X 40}}{\text{Abs. Std.}}$$

$$\text{Urine Urea (gms/liter)} = \frac{\text{Abs. Test x 40 x 20}}{\text{Abs. Std. x 100}}$$

BUN Concentration (mg/dl) = 0.467 x Urea (mg/dl)
Urea concentration (mg/dl) x 0.167 = Urea (mMol/L)

NORMAL VALUES:

Serum/Plasma Urea : 10 - 40 mg/dl
Serum/plasma BUN : 4.6 - 18 mg/dl
Urine Urea : 20 -35 gm / 24 hrs.
Each laboratory should establish its own reference range.

LINEARITY:

The method is linear up to 200 mg/dl. For Urea concentration higher than linearity limit, mix one volume of sample with one volume of 0.9 % saline and repeat the assay. Multiply the results obtained by two.

REFERENCE:

1. Fearon, W.R. (1939) Biochem.J. 33:902.
2. Martinek, R.G. (1969) J. AM. Med. Tech. 31:678.
3. Wybenga, D.R. (1971) Clin. Chem. 17:891.

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Expiry Date | IVD In-Vitro Diagnostics Use | Storage | Mfg. Date | LOT Batch Number | REF Catalogue Number | See Package Insert

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