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ACCUCARE™
UREA-UV
UV GLDH METHOD

Quantitative determination of UREA in Serum/Plasma
Only for *In Vitro* Diagnostic use

ORDER INFORMATION

REF	Cont.
URUVSLR 100	2 X 50 ML
URUVSLR 200	4 X 50 ML
URUVSLR 125	5 X 25 ML

CLINICAL SIGNIFICANCE

Urea is the final result of the metabolism of proteins; It is formed in the liver from their destruction. It can appear the urea elevated in blood (uremia) in: diets with excess of proteins, renal diseases, heart failure, gastrointestinal hemorrhage, dehydration or renal obstruction1,4,5. Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.

PRINCIPLE

Urea is hydrolysed in the presence of water and urease to produce ammonia and carbon dioxide. The ammonia produced combines with alfa-oxoglutarate and NADH in the presence of glutamate dehydrogenase to yield glutamate and NAD.

REAGENT COMPOSITION

Reagent I : Buffer reagent
Reagent II : Enzyme reagent
Urea Standard : 50 mg/dl

SAMPLE COLLECTION AND PRESERVATION

Serum or plasma, urine dilute 1:20.
Dilute urine 1+20 with distilled water. Multiply the result by 21.
Stability in the serum and in plasma ; 3 days at 2-8℃.
NOTE : All anticoagulants except ammonia & heparin can be used.

REAGENT PREPARATION

Mix 4 parts (4 ml) of Buffer reagent with 1 part (1 ml) of Enzyme reagent.

REAGENT STORAGE AND STABILITY

Prior to use:
When stored between 2-8℃ the reagent is stable until the expiration date stated on the bottle and kit box label.

Reconstituted Reagent:
When stored capped at 2-8℃, the working reagent is stable for at least 30 days.

REFERENCE VALUES

Serum, plasma	15 - 50 mg/dl
Urine	20 - 35 g/24h

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

AUTOMATED PARAMETERS	
Wavelength	340 nm
Measurement	Against distilled water
Reaction	Fixed Time Kinetic
Cuvette	1 cm light path
Reaction Temperature	37℃
Reaction Direction	Decreasing
Sample Volume	10 µl
Working Reagent Volume	1000 µl
Delay/Lag/Time	30 Secs
Interval Time	60 Secs
No. of Readings	01
Blank Absorbance Limit	> 0.8
Low Normal at 37℃	15 mg/dl
High Normal at 37℃	50 mg/dl
Linearity at 37℃	300 mg/dl

MANUAL ASSAY PROCEDURE

PIPETTE INTO TEST TUBES

	STD	SAMPLE
STANDARD	10 µl	-
SAMPLE	-	10 µl
WORKING REAGENT	1000 µl	1000 µl

Mix well and read after 30 secs initial absorbance of sample (A1s) and standard (A1std) and start timer simultaneously. Read again, after 60 secs.

CALCULATION

UREA mg/dl = (A2s - A1s) / (A2std - A1std) x 50

LINEARITY

This method is linear to a concentration of 300 mg/dl. Dilute samples above this concentration 1:1 with 0.9% NaCl solution and repeat assay. Multiply the result by 2.

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

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