

BHAT BIOSCAN™

Pack size. U 100ml

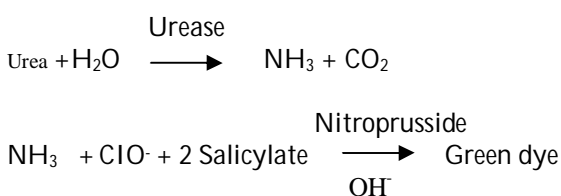
UREA / BUN-(Berthelot mod.)

Colorimetric –Urease method

Cat. No. U- 100

Principle:

Urea is hydrolyzed with urease to produce ammonia and carbon dioxide. In modified Berthelot reaction the ammonium ions react with hypochlorite and salicylate to give a green dye. The increase of absorbance at 600nm is proportional to the urea concentration in the sample.



Reagent Composition:

1. Reagent I (Enzyme)

Phosphate buffer pH 7.2	50mmol/L
Sodium salicylate	10mmol/L
Sodium nitroprusside	5mmol/L
Urease	5500U/L
2. Reagent II (Colour)

Sodium hypochloride	20mmol/L
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3. Urea standard 40mg/dl

Reagent Preparation:

Reagent is ready to use.

Storage & Stability:

Store at 2-8° C, and keep away from light. Unopened reagent is stable until expiry date stated on the label.

Sample:

Unhemolysed serum or heparinised plasma can be used.

Procedure:

Let stand reagents and specimens at room temperature.

Tube	Blank	Standard	Test
Reagent I	1000µl	1000 µl	1000 µl
Standard	-	10 µl	-
Sample	-	-	10 µl

Mix and Incubate @ 37 °C for 5min.

Reagent II	1000µl	1000µl	1000µl
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Mix and Incubate @ 37 °C for 5min. Read the absorbance at 630nm.

Calculations:

Calculate the result as follows:

$$\text{Urea (mg/dl)} = \frac{A_{\text{sample}}}{A_{\text{standard}}} \times \text{Std. con.}$$

$$\text{BUN} = \text{Urea} \times 0.468$$

Expected Value:

	Urea	BUN
Serum	: 15-40mg/dl	4.8-23.3mg/dl

Each lab should optimize its own normal range.

Quality Control:

The assay linear up to 300mg/dl . Use always QC sera to analyze the performance of the assay.

Reference:

1. Berthelot M : Report Chem.Aplique 1,284 (1859).
2. Watherburn, M.W, Anal Chem, 39,971 (1967).