



JOURI LABS

Urea

Liquid Stable Reagent
Modified Urease Berthelot Method
Store at 2-8°C

Principle

Urea is hydrolyzed by water and Urease into ammonia and carbon dioxide. The ammonia produced is further acted with hypochlorite and salicylate to form a green complex



Reference values

Serum , plasma	18-45	mg/dl
Urine	20 – 35	g/24hrs
	338-538	mmol/24 h

These ranges are given for orientation only, each laboratory should establish its own normal ranges.

Samples

Serum, heparin plasma.
Urine diluted 1/100 with distilled water
(Do not use anticoagulants containing fluoride or ammonium ions).

Reagents

R1 + R2 Concentration in the test :

100 mmol/l	Phosphate buffer
62 mmol/l	Na Salicylate
5 UI/ml	Urease
5.0 mmol/l	Na Nitroprusside
1.48 mmol/l	EDTA

:R3

mmol/L 7.0	Sodium Hypochloride
mmol/L 150	Sodium Hydroxide

.R4

mg/dl 50	Standard
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Preparation of working reagent

Dissolve 0.5ml of R₂ in contents of one bottle buffer R₁, wait for 15 minutes before use. The working reagent is stable for 60 days at 2-8°C.

Procedure

Bring the reagents to room temperature

Wavelength	600 nm (578-623)
Temperature	37°C
Cuvette	1 cm light path
Method	Endpoint - Increasing

	Blank	Standard	Sample
Standard	-	10 l	-
Sample	-	-	10 l
Working reagent	1ml	1ml	1ml

Mix well incubate for 5 min at 37C.

R3	1ml	1ml	1ml
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Mix well incubate for 5 min at 37C or 10min at room temperature. Read the optical density of the standard and sample against the blank the color is stable for 1 hour..

Calculation

$$\text{Urea (mg/dl)} = \frac{\text{O.D Sample}}{\text{O.D Standard}} \times \text{Standard concentration}$$

$$\text{mg/dl} \times 0.1665 = \text{mmol/l}$$

Linearity

Up to 200 mg/dl or 36 mmol/l.

NOTES

- Do not use hemolized serum.
- Urea in sample is stable for 7 days at 2-8°C.

Bibliography

- Fawcett, JK., J. Clin. Path. 1960, 13. 156-159
- Chaney. AL. Clin. Chem 8. 130 (1962).

The following symbols are used on labels

IVD	For in vitro diagnostic use
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Use day (last day of the month)

Temperature limitation

LOT	Bath code
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REF	Code
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