

SODIUM

Colorimetric Method

50 Tests

PRINCIPLE :

Sodium ions + Excess uranyl acetate + Magnesium acetate \longrightarrow Sodium magnesium uranyl acetate + Residual uranyl acetate

Potassium ferrocyanide + Residual uranyl acetate \longrightarrow Colored complex which can be measured colorimetrically. The absorbance varies inversely with sodium concentration.

SAMPLES :

Non-hemolyzed serum or plasma from non sodium – containing anticoagulants. The sample can be stored for ten days at +2 to +8 °C .

NORMAL VALUES:

135 – 150 mmol/L

REAGENTS :

1.	Standard	150 mmol / L
2.	Precipitant Reagent : Uranyl acetate Magnesium acetate	40 mmol / L 140 mmol / L
3.	Acid Reagent :	500 mmol / L
4.	Color Reagent : Potassium Ferrocyanide	45 mmol / L

STABILITY :

The reagents are stable up to the expiry date specified when stored at +15 to +25 °C away from light .

PROCEDURE:

It is recommended to use disposable plastic-ware to avoid any possible contamination

	Blank (ml)	Standard (ml)	Sample (ml)
Standard (R1)	-	0.01	-
Sample	-	-	0.01
Reagent 2	-	0.5	0.5
Mix well, let stand at 2 – 4°C. for 10 minutes. Centrifuge tubes at 3000 r.p.m. for 10 minutes, then take the following aliquots :			
Reagent 2	0.025	-	-
Standard supernate	-	0.025	-
Sample Supernate	-	-	0.025
Reagent 3	0.5	0.5	0.5
Mix well then add			
Reagent 4	0.5	0.5	0.5

Mix well, read after 5 min. the absorbance of reagent blank (A_{RB}), standard (A_{ST}) and sample (A_{SA}) against distilled water at 545 nm, (540 – 550 nm). The color is stable over a period of one hours. Linearity up to 250 mmol/ L

CALCULATION :

$$\text{Sodium in sample (mmol / L)} = \frac{A_{RB} - A_{SA}}{A_{RB} - A_{ST}} \times 150$$

QUALITY CONTROL :

For accuracy and reproducibility control:- Assayed Multi – Sera, Normal and Elevated

REFERENCES :

Trinder, P. (1951) Analyst, 76 : 596.

SODIUM

Colorimetric Method
+15 to +25°C 50 Tests
In vitro diagnostic use

CAT. No. SO 19 10

REAGENTS

R1 Standard	2 ml
R2 Precipitant	25 ml
R3 Acid reagent	25 ml
R4 Color reagent	25 ml

CONTACTS

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