

**Reagent kit for quantitative estimation of Sodium in Serum or Plasma.**

**DIAGNOSTIC SIGNIFICANCE:**

Sodium is the major cation of extra - cellular fluid. It plays a central role in the maintenance of the normal distribution of water and the osmotic pressure in the various fluid compartments. The main source of body sodium is sodium chloride contained in ingested foods. Only about one - third of the total body's sodium is contained in the skeleton since most of it is contained in the extra – cellular body fluids.

Hyponatremia (**low serum sodium level**) is found in a variety of conditions including the following: severe polyuria, metabolic acidosis, Addison's disease, diarrhea, and renal tubular disease.

Hypertatremia (**increased serum sodium level**) is found in the following conditions: hyperadrenalism, severe dehydration, diabetic coma after therapy within insulin, excess treatment with sodium salts.

**PRINCIPLE:**

The Present method is based on reaction of Sodium with a selective chromogen (Phosphonazo III) changing a colour from violet to blue in the presence of chelating agent whose absorbance varies directly as the concentration of Sodium in the sample and measured at 630 nm (600-650nm or with RED filter).

**SPECIMEN COLLECTION:**

Serum or heparinized Plasma.  
Sodium sample is stable for 2 weeks at 2 - 8°C.

**KIT PRESENTATION:**

Pack Size	25 Test	50 Test	2 X 50 ml
Sodium Reagent	25 X 1 ml	50 X 1 ml	2 X 50 ml
Sodium Std. (150 mMol/L)	1 X 01 ml	1 X 01 ml	1 X 02 ml

**PRECAUTIONS:**

As Sodium is a very widely distributed ion, care should be taken to avoid any contamination. All glassware being used for the test should first be rinsed with 1% or 0.1N HNO and then with good quality deionized / distilled water before use.

**REAGENT STORAGE & STABILITY:**

Sodium Reagent and Standard are stable at 2-8°C until the expiry date indicated on the label.

**ASSAY PARAMETER:**

Reaction	: End point	Sample Vol.	: 10 µl
Wavelength	: 630 nm (600-650)	Reagent Vol.	: 1.0 ml
Zero Setting	: Reagent Blank	Std Conc.	: 150 mMol/L
Incub. Temp.	: R T	Linearity	: 180 mMol/L
Incub Time	: 10 minutes	Unit	: mMol/L

**PROCEDURE:**

Pipette into TT	Blank	Std	Test
Sodium Reagent	1.0 ml	1.0 ml	1.0 ml
Sodium Standard	--	10 µl	--
Sample (Test)	--	--	10 µl

Mix and incubate at RT for 10 minutes. Read absorbance of Standard (S) and Test (T) after 10 minutes against reagent blank at 630 nm (600-650nm or with RED filter).

**CALCULATION:**

Sodium conc. (mMol/L) = Abs T ÷ Abs S X 150

**NORMAL VALUES:**

Serum / Plasma : 135 – 155 mMol/L

**LINEARITY:**

This method is linear up to 180 mMol/L. For samples with values higher than 180 mMol/L dilute the samples with **Pure Distilled Water** and repeat the assay. Apply proper dilution factor.

**REFERENCES:**

1. Tietz, N.W., Fundamentals of clinical Chemistry, W.b. SaundersCo. Phila, P.A. p. 874.
2. Henry R.F., et, al, Clinical Chemistry Principles and Technics. 2<sup>nd</sup> Ed, Harper and Row, Harper and Row, Hargersein, M.D. (1974).
3. Maruna RFL., Clin Chem. Acta. 2:581, (1958).
4. Trinder, P: Analyst, 76:596, (1951).

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Expiry Date



In-Vitro Diagnostics Use



Storage



Mfg. Date



Batch Number



Catalogue Number



See Package Insert