Sodium Reagent Kit

Colorimetric Test

PRODUCT CODE
CE006

INTENDED USE
This reagent kit is intended for the "In Vitro "quantitative determination of Sodium in Serum

CLINICAL SIGNIFICANCE
Sodium is the major cation of extracellular 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 the sodium chloride contained in ingested foods. Only about one-third of the total body sodium is contained in the skeleton since most of it is contained in the extracellular 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. Hypernatremia (increased serum sodium level) is found in the following conditions: hyperadrenalism, severe dehydration, and diabetic coma after therapy with insulin, excess treatment with sodium salts.

PRINCIPLE
The method is based on reaction of sodium with a selective Chromogen producing a chromophore whose absorbance is directly proportional to sodium concentration in the sample

REAGENT COMPOSITION
Reagent 1: Sodium Reagent
Reagent 2: Sodium Standard 150 mEq/L

REAGENT PREPARATION
The reagent and standard are ready to use.

STORAGE AND STABILITY
The reagents and standard are stable up to the stated expiry date when stored at 15-30 ° C.

SPECIMEN
Serum or heparinized plasma.
Sodium is stable for 2 weeks at 2 - 8°C.

NORMAL RANGE
Serum/Plasma: 135 - 155 mEq/L.
It is recommended that each laboratory establish its own normal range representing its patient population.

ASSAY

Wavelength	630 nm
reaction type	Endpoint
Cuvette	1 cm light path
Temperature	Room temp.
Measurement	Against reagent blank

PROCEDURE

Pipette in to cuvettes	Blank	Standard	Sample
Sodium Reagent	1000 µL	1000 µL	1000 µL
Standard	--	10 µL	--
Sample	--	--	10 µL
Mix and incubate for 5 min at room temp. and measure the absorbance of the sample (As) and the standard (A.std) against the reagent blank.			

CALCULATION

$$\text{Concentration of Sodium (mEq/L).} = \frac{\Delta A \text{ sample}}{\Delta A \text{ standard}} \text{X } 150 \text{ (Std. conc.)}$$

LINEARITY
This procedure is linear up to 180 mEq/L. If values exceed this limit dilute the sample with distilled water and multiply results with proper dilution factor.

NOTE
As Sodium is a very widely distributed ion, care should be taken to avoid any contamination. All glass wares being used for the test should first be rinsed with 1% or 0.1 N HNO3 and then with good quality deionized water before use.

QUALITY CONTROL
Control serum of known concentrations should be analyzed with each run.

SYMBOL ON LABELS

Symbols	Signify	Symbols	Signify
REF	Catalogue Number	SIZE	Pack Size
	Expiry Date	VOL	Volume
	Storage Condition	LOT	Lot Number
	Instruction for Use	IVD	In Vitro Diagnostics
	Manufacturing Date		Manufacturer
	Number of Tests	2	For Single Use Only
EC REP	EC Representative	CE	European conformity

BIBILOGRAPHY
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