SODIUM

METHOD – COLORIMETRIC
PRODUCT CODE – LS01

ANAMOL
THE ORIGINAL MAKERS

INSTRUCTIONS FOR USE

INTENDED USE: Test for quantitative determination of Sodium in human serum and plasma, CSF and urine samples.

SUMMARY

This test is performed when symptoms of a sodium imbalance are present, or when disorders associated with abnormal sodium levels develop. Sodium (Na^+) is the major positive ion in the fluids outside of cells. The concentration of sodium inside cells is only about 5 mEq/L compared with 140 mEq/L outside. The sodium content of the blood is a result of a balance between the amount in the food and beverages you consume, and the amount your kidneys excrete. (In addition, a small percent is lost through the stool and sweat.) Many factors affect sodium levels, including the steroid hormone aldosterone, which decreases loss of sodium in the urine. ANP (atrial natriuretic protein) is a hormone secreted from the heart that increases sodium loss from the body. Despite the integral relationship between sodium and water, the body regulates them independent of each other if necessary.

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 chealating agent whose absorbance varies directly as the concentration of sodium in the test specimen

REAGENT COMPOSITION

Reagent - Sodium Reagent
Standard - Sodium Standard (150 mEq/L).

PREPARATION, STORAGE & STABILITY

The reagent provided in the kit is in **single ready-to-use** format. The reagent is stable until the expiry date as indicated on the bottle label at room temperature (15-30 °C).

SPECIMEN COLLECTION & PRESERVATION

Freshly drawn non haemolysed serum, heparinised plasma, CSF or urine is the specimen of choice. Serum Sodium is stable for at least 24 hours at room temperature and two weeks at 2-8°C.

TEST PARAMETERS

Name	Sodium
Reaction Type	End Point
Wavelength	630 nm
Flow Cell Temp.	37 °C
Blank setting	Reagent
Blank abs. limit	< 0.300

Reagent Volume	1000 µl
Sample Volume	10 µl
Temperature	R.T.
Incubation Time	5 min.
Standard Conc.	150 mEq/L
Linearity	180 mEq/L

ASSAY PROCEDURE

	Blank	Standard	Test
Reagent	1000 µl	1000 µl	1000 µl
Standard	NA	10 µl	NA
Sample	NA	NA	10 µl
Mix the reagent and sample/standard in the above mentioned ratio.			
Incubate the assay mixture for 5 mins at R.T. and record the absorbance at 630 nm.			

CALCULATION

$$\text{Sodium (mEq/L)} = \frac{\text{Abs. of sample x Conc of Standard}}{\text{Abs. of standard}}$$

REFERENCE VALUES FOR NORMAL PEOPLE

Serum - 135 to 155 mEq/L

NOTES

1. NA-p CAL: Proceed carefully with this product because due its nature it can get contamined easily.
2. Detergents usually contain high sodium concentrations. The equipment (test tubes, pipettes, stoppers, cuvettes) must therefore be rinsed carefully with distilled water. Avoid contamination by traces of sodium.
3. Disposable plastic tubes are recommended for the determination to avoid contaminations.
4. Calibration with the aqueous standard may cause a systematic error in automatic procedures. In these cases, it is recommended to use a serum Calibrator.

QUALITY CONTROL

Inclusion of a normal value and abnormal value control serum in each test run ensures optimum quality control. Consistent use of same type and methodology of control serum provides between run precision and accuracy data for Sodium. We recommend to produce such data on daily basis for greater accuracy in assay system which include reagents, instrument, apparatus and operator.

BIBLIOGRAPHY

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3. Maruna RFL., Clin Chem. Acta. 2:581, (1958).
4. Trinder, P:Analyst, 76:596, (1951).

SYMBOLS: Read Instruction for use | IVD In Vitro Diagnostic Use Only | Manufactured by | Expiry Date | Storage Temperature

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