Pariksha Biotech
A game changer in IVD

Sodium Estimation Kit

High-Q Sodium (Na+)

(5 th Generation Dye Binding

HIGH®
Command on Quality

Intended Use:
For the Quantitative determination of Sodium (Na^+) Human Serum.

Summary & Clinical Significance:
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. Potassium (K+) is the major positive ion within cells and is particularly important for maintaining the electric charge on the cell membrane. This charge allows nerves and muscles to communicate and is necessary for transporting nutrients into cells and waste products out of the cell. The concentration of potassium inside cells is about 30 times that in the blood and other fluids outside of cells. Potassium levels are mainly controlled by the steroid hormone aldosterone. Aldosterone is secreted from the adrenal gland when levels of potassium increase. Aldosterone, in turn, causes the body to rid itself of the excess potassium. Metabolic acidosis (for example, caused by uncontrolled diabetes) or alkalosis (for example, caused by excess vomiting) can affect blood potassium. In normal people, taking potassium supplements or potassium-containing drugs is of no consequences, because the kidneys efficiently dispose of excess potassium.

Principle:
Sodium is estimated by the use of 5th Generation Dye which specifically binds with Sodium alone when the serum is added to the dye reagent. The intensity of the purple colour produced is directly proportional to the sodium concentration in the specimen and is measured photometrically at 546 nm

Normal Range
Sodium- 126 – 155 mMol/L
It is recommended that laboratories should establish their own normal range.

Kit Contents:
1. Sodium Dye Reagent.
2. Sodium Standard
(Conc: Sodium 135 mMol/L)

Reagent Composition:
Sodium Specific Dye ≥ 0.2 mMol/L
Detergent ≥ 25 mmol/L
Activators and Stabilizers

Storage and Stability:
All the reagents must be stored at 2-8°C and are stable till the expiry date mentioned on the labels.

Specimen:
Unhemolysed Serum is the only specimen. Do not use Plasma
Do not use lipaemic / turbid / icteric samples.

System Parameters	For Sodium Assay
Reaction Type (Mode)	End Point
Wave Length	546 nm
Flow Cell Temp	37° C
Blanking	Distilled Water
Standard Concentration	**135**
Units	mMol/L
Low Normal	126
High Normal	155
Linearity	200
Reagent Volume	1.0 ml
Sample Volume	25 µl

Notes:

1. **Sodium Assay is performed in fresh disposable new test tubes**
2. **End user must use fresh disposable new microtips while pipetting Sodium Reagent.**

Procedure:
Sodium Assay:
Take new disposable test tubes and label them as Standard (S) and Test (T). Pipette the Reagent, Standard and Specimen using the new microtips to avoid contamination.

Reagent	(S)	(T)
Sodium Reagent	1.0 ml	1.0 ml
Standard (Conc: Sodium 135 mMol/L)	25 µl	-
Serum Sample	-	25 µl

Mix well and Incubate at Room Temperature for 5 Minutes then measure the absorbance of Standard (S) and Test (T) against Distilled Water Blank on a Photocolorimeter which is set at 546 nm

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Calculations:

$$\text{Sodium in mMol/L} = \frac{\text{Abs. of Test}}{\text{Abs. of Standard}} \times 135$$

Linearity:
Up to 200 mMol/L

Ordering Information:

Cat No:	Pack Size	Presentation
P-NA-50	50 T	Sodium (Single Reagent)
P-NA-100	100 T	

Bibliography:

1. Hillmann, G., Beyer, G., Z. Klin. Chem. Klin. Biochem. 5, 93 (1967)
2. Henry, R.J., Clin. Chem., Harper & Row, New York, Sec. Edit. 646 (1974)
3. Tietz, N.W., Fundamentals of Clinical Chemistry, Saunders, Philadelphia, Sec. Edit., 876 (1976)
4. ISO 15223 Medical devices – Symbols to be used with medical device labels, labelling and information to be supplied.
5. Young DS. Effects of drugs on Clinical Lab. Tests, 4th ed AACC Press, 1995.
6. Young DS. Effects of disease on Clinical Lab. Tests, 4th ed AACC 2001.

Product Features

- Liquid Stable, ready to use single reagent
- 5th Generation sodium specific dye incorporated
- No precipitation of samples required.
- Results corelate with ISE, Direct / Indirect Potentiometry & Flame Photometry.
- Aqueous standard provided (Standard Conc: Sodium 135 mMol/L).
- Linearity Sodium : 200 mMol/L.
- Measuring Wavelength for Sodium : 546 nm
- Serum is the only specimen
- Available as multipurpose reagents

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Symbols used with IVD devices

	Date of manufacture		Manufactured by
IVD	In vitro diagnostic device		Keep away from sunlight
	Do not freeze		This way up
	Use by (yyyy-mm-dd or mm/yyyy)	R	Reagent
CAL	Calibrator Material	LOT	Batch code
2°C 8°C	Temperature limitation (store at)	CONTROL	Control
	Consult instructions for use		Keep dry Keep away from rain
REF	Catalog Number		

eIFU Indicator

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SCAN TO EXPLORE MORE

Manufactured in India by :
Pariksha Biotech Pvt Ltd,
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AN ISO 13485 Certified Company

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