



PRINCIPLE

Potassium is estimated in the serum by turbidometric method. Potassium ions in the serum reacts with Sodium tetra phenyl boron to produce insoluble precipitate of potassium tetra phenyl boron resulting in turbidity.

The extent of turbidity is directly proportional to the amount of potassium present and is measured at 620 nm photometrically

CLINICAL SIGNIFICANCE

Potassium is the major intracellular cation. Potassium concentration in plasma determines neuromuscular and muscular irritability. Elevated or decreased concentration impair the capabilities of muscle tissue to contract. An increase in serum Potassium may occur in renal failure, auria and severe oliguria. While decrease in serum Potassium is seen in starvation, vomiting, diarrhoea, malabsorption syndrom,etc.

SAMPLE COLLECTION & STORAGE

Serum e altered and should be separated from the clot without delay to prevent any leakage of Potassium from RBC which contains 23 times higher concentrations

Lipemic icteric/ Turbid Sample should be avoided

PRECAUTION

- Potassium. Kit is for in Vitro diagnostic use only
- Bring all reagents to room temperature before use.
- **Add the serum drop by drop by with the microtip touching the top of the surface of the boron reagent solution. This facilitates for good mixing of the sample.**

KIT CONTENTS & STORAGE

Potassium (Boron) Reagent : 50 ml 25 x 1 ml 50 x 1 ml

Potassium standard (5 mmol) 2 ml 1 ml 1 ml

All reagents are to be stored at 2-8° C and stable till expiry date mentioned.

REAGENT PREPARATION

All reagents are ready to use

SYSTEM PARAMETERS

Reaction Type	End point with Standard
Wave length	620 nm
Flow Cell Temp	30° C
Reagent Volume	1.0 ml
Sample Volume	50 pl
Standard Concentration	5
Units	mmol/L
Incubation	5 minutes
Zero Setting	Reagent Blank

PROCEDURE

Pipette in a clean dry test tubes labeled as standard(S) and Test(T)

	S	T
Boron Reagent	1.0 ml	1.0 ml
Standard	50 µl	
Sample		50 µl

Mix well and incubate for 5 minutes at RT and read the absorbance of Test (T) and standard (S) against distilled water on the spectrophotometer at 620 mm within 10 mins

CALCULATIONS

Conc of Potassium in serum (mmol/L) : (Abs of test/Abs of Std) X Conc Of Std

LIN EARITY

This method kit is linear upto 10 mmol/L. Samples exceeding 10 mmol/L should be diluted and re-assayed. The result has to be multiplied by the dilution factor

NORMAL RANGE

3.5 - 5.5 mmol/L

Due to variation in inter-laboratory assay conditions, instruments and demography, it is recommended that each laboratory should establish its own normal range.

BIBILOGRAPHY

1. Sundennan, F.W., et. al. (1959)Am. J. Clln. Path. 29:95 Schales, O.. Schales, 8.8.. (1941) J. Biol. Chem. 140 : 879 Schoenfeld, R.G., Lewellen, C.J., (1964) Clin. Chem. 10 : 553
2. Trinder, P., (1951)Analyst 76 : 596 Terri. A.E., et. al. (1958) J. Clin. Path. 29 :86