

Reagent for quantitative estimation of Potassium in human Serum and Plasma.

DIAGNOSTIC SIGNIFICANCE:

Potassium is the principal cation of the intracellular fluid, It is also an important constituent of the extracellular fluid and due to its extracellular function, namely influencing acid - base balance and osmotic pressure, including water retention.

Elevated potassium levels (hyperkalemia) are often associated with renal failure, dehydration shock of adrenal insufficiency. Decreased potassium levels (hypokalemia) are associated with malnutrition, negative nitrogen balance, gastrointestinal fluid losses, and hyperactivity of the adrenal cortex.

PRINCIPLE:

The amount of Potassium is determined by using Sodium Tetraphenylboron in a specifically prepared mixture to produce a colloidal suspension (Turbidity). The amount of turbidity is directly proportional to the Potassium concentration in sample & measured photometrically at 630 nm (600-650nm or with RED filter).

Sodium-Tetraphenylboron + Potassium → White Turbidity

SPECIMEN COLLECTION:

Serum is recommended. Serum should be separated from the clot immediately as soon as possible. Plasma from anticoagulants not containing Potassium is also suitable.

KIT PRESENTATION:

Pack Size	25 Test	50 Test	2 X 50 ml
Potassium Reagent	25 X 1 ml	50 X 1 ml	2 X 50 ml
Potassium Std. (5 mMol/L)	1 X 01 ml	1 X 01 ml	1 X 02 ml

REAGENT STORAGE & STABILITY:

Potassium reagent and standard are stable at 2-8°C until the expiry date indicated on the label.

ASSAY PARAMETERS:

Reaction	: End Point	Sample Volume	: 20 µl
Wavelength	: 630 nm (600-650)	Reagent Volume	: 1.0 ml
Zero Setting	: Dist. Water	Standard Conc.	: 5 mMol/L
Incub. Temp.	: RT	Linearity	: 15 mMol/L
Incub. Time	: 5 minutes	Unit	: mMol/L

PROCEDURE:

Pipette into TT	Standard	Test
Potassium Reagent	1.0 ml	1.0 ml
Potassium Standard (5 mMol/L)	20 µl	--
Sample (Test)	--	20 µl

Mix and incubate at RT for 5 minutes. Read absorbance of Standard (S) and Test (T) after 5 minutes against **distilled water** at 630 nm (600-650 nm or with RED filter).

STABILITY OF FINAL REACTION MIXTURE:

The Turbidity of final reaction mixture is stable for 6 hours.

CALCULATION:

Potassium concentration (mMol/L) = Abs T ÷ Abs S X 5

NORMAL VALUES:

Serum : 3.5 - 5.5 mMol/L

Plasma : 4.0 - 4.8 mMol/L

Each laboratory establishes its own reference range.

LINEARITY:

The method is linear up to 15 mMol/L. If values exceed this limit, dilute the sample suitably with **Pure Distilled Water** and repeat the assay. Apply dilution factor to obtain the test results.

REFERENCES:

1. Henry R.F. et. Al., Clinical Chemistry Principle and Techniques, 2nd Ed., Harper and Row, Hagerstown, M.D., (1974).
2. Tietz, N.W, Fundamentals of Clinical Chemistry, W.B., Saunders Co., Philadelphia, PA, p.874
3. Terri. A.E., and Sesin, P.G., Am.J.Clin. Path, 29:86 (1958).

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Expiry Date



In-Vitro Diagnostics Use



Storage



Mfg. Date



Batch Number



Catalogue Number



See Package Insert