Potassium Test Kit

REF	Pack Size	Reagent 1	Reagent 2 (Std)
POTLMS01	25×1 ml	25×1 ml	1×2 ml

INTENTED USE
Potassium reagent is used for the quantitative estimation of potassium in human serum or plasma.

CLINICAL SIGNIFICANCE
Potassium is the major positive ion within cells and is particularly important for maintaining the electrical charge on the cell membrane. This charge allows nerve and muscles to communicate and is necessary for transporting nutrients into cells and waste product out of the cell. The concentration of potassium inside cells is about 30 times that in the blood and other fluids outside of cell. Potassium levels are mainly control by the steroid hormone aldosterone. Aldosterone is secreted from the adrenal gland when levels of potassium increased. Aldosterone in turn, causes the body to rid itself of the excess potassium. Metabolic acidosis (e.g. caused by uncontrolled diabetes) or alkalosis (e.g. 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.

METHOD
End point method, Single reagent chemistry.

TEST PRINCIPLE
Potassium ions in a protein-free alkaline medium react with sodium tetraphenyl boron to produce a finely dispersed turbid suspension of potassium tetraphenyl boron. The turbidity produce is proportional to the potassium concentration and read photometrically.

KIT CONTENTS/COMPONENTS
Reagent 1: Potassium Reagent & Reagent 2: Standard (5 mmol/L)

MATERIAL REQUIRED BUT NOT PROVIDED
Laboratory instrumentation, spectrophotometer UV/VIS with thermostatic cuvette holder or clinical chemistry analyzer: semi-automated, calibrated micropipettes, glass or high-quality polystyrene cuvettes, test tubes/rack, heating bath, controls, saline.

SAFETY PRECAUTIONS AND WARNINGS
1.For in-vitro diagnostics use only.
2.Do not pipette by mouth. Avoid contact with skin and eyes. If spilt thoroughly wash affected area with water.
3.Do not use the reagent after the expiration date printed on the kit.

REAGENT, PREPARATION, STORAGE AND STABILITY
Potassium reagent and standard are ready to use & are stable up to specified expiry date. Standard vial once open should be stored at 2 – 8 ^{0}C.

REAGENT DETERIORATION
1.Discard the reagent if absorbance exceeds 0.30 against distilled water.
2.Keep the Standard vial plugged after use, in order to avoid deterioration.

SPECIMEN
Serum (preferred) plasma (heparinase or EDTA). Venostasis should be avoided in specimen collection because hemoconcentration increases the concentration of Albumin and other plasma proteins.

PROGRAM

Reaction Mode	End point
Wavelength	630 nm (620-650nm)
Light Path	10 mm
Blanking	Reagent blank
Reagent Volume	1000 µl
Standard Volume	20 µl
Sample Volume	20 µl
Incubation	5 mins. at RT
Standard Conc.	5 mmol/L
Linearity	7 mmol/L

PROCEDURE

Test	Reagent	Standard	Sample
Biuret reagent	1000 µl	1000 µl	1000 µl
Standard	---	20 µl	---
Distilled Water	20 µl	---	---
Sample	---	---	20 µl

Mix well & incubate for 5 minutes at Room temperature read absorbance of sample and absorbance of standard against reagent blank.

CALCULATION
Concentration (C) of Potassium in the Sample

$$C = \frac{\text{Absorbance of sample}}{\text{Absorbance of standard}} \times 5 \text{ mmol/L (Conc. Of std)}$$

NORMAL VALUES

Serum	3.60 – 5.50 mmol/L
Plasma	4 – 4.80 mmol/L

LIMITATION
If the value exceeds 7 mmol/L, dilute the sample with 0.9% saline solution rerun and result multiplied by dilution factor.

QUALITY CONTROL AND CALIBRATION
It is suggested to perform internal quality control with assayed normal and assayed abnormal, to confirm the validity of the test and assure the accuracy of patient result. Using the recommended calibrator or the Standard included, calibrate the assay.
1.When using a new reagent or lot
2.When QC values are out of range

WASTE DISPOSAL
This Product is made to be used in professional laboratories.

HIGHLIGHT
1.Storage condition mentioned on the kit is to be used.
2.Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
3.Before testing bring the reagents to the RT.
4.Avoid reagents contamination.
5.Every time use new pipette-tips for pipetting out the reagents.
6.These Reagent kits meant for laboratory/professional use only, not for Drug use.

REFERENCE
Tietz N.W. Fundamentals of Clinical Chemistry, W.b. saunders Co. Phila, P.A.P.874.
Trinder, P. Analyst ,76:596, (1951)
Lords Data File.

REF	Catalog No.	Σ	Contain Sufficient for test
LOT	Batch No.		Instruction for use
	Manufacturing Date	IVD	*In-vitro* Diagnostics
	Expiry Date		Storage temperature
	Manufacturer		

IFU/P0T/01 Rev.: 01; Rev Dated.: 22/07/2024

Lord's Mark Industries Pvt. Ltd., Plot No. A71, Royal Ind. Hub, Poman, Kaman-Bhiwandi Road, Taluka -Vasai, Palghar- 401208, Maharashtra (India). Customer Care No.: 8425982321. Email: ivdcare@lordsmark.com; Website: www.lordsmed.com