

Calcium (Ars III) Test Kit

REF	Pack Size	Reagent 1	Reagent 2 (Std)
CALLMS01	25x1 ml	25x1 ml	1x2 ml
CALLMS02	50x1 ml	50x1 ml	1x2 ml

INTENDED USE

Calcium (ARSIII) kit is used for the quantitative estimation of calcium concentration in human serum or plasma

CLINICAL SIGNIFICANCE

Calcium plays an essential role in many cell functions: intracellularly in muscles contraction and glycogen metabolism, extracellularly in bone mineralization, in blood coagulation and in transmission of nerve impulses. Calcium is present in plasma in 3 forms, bound to proteins or complexed with anions and phosphate, citrate and bicarbonate. Decreased total calcium levels can be associated with diseases of the bone apparatus (Especially osteoporosis), absorption and hyperparathyroidism, malignant diseases with metastases and sarcoidosis. calcium measurements also help in monitoring of calcium supplementation mainly in the prevention of osteoporosis.

METHOD Arsenazo III method.

TEST PRINCIPLE

Ca²⁺ forms a blue colored complex with Arsenazo III. The intensity of the color formed is directly proportional to calcium concentration.

KIT CONTENTS/COMPONENTS

Reagent 1: Arsenazo & Reagent 2: Standard 10 mg/dl

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

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

REAGENT PREPARATION, STORAGE AND STABILITY

Reagent 1, Standard are ready to use & are stable up to expiry date if stored at 15 - 30°C.

REAGENT DETERIORATION

- Discard the reagent if absorbance exceeds 0.8.
- Keep the Standard vial plugged after use, to avoid deterioration.

SPECIMEN

Serum (preferred) plasma (heparinase). Venostasis should be avoided in specimen collection. Samples are stable for 7 days at 2-8°C. & 6 months when frozen.

PROGRAM

Reaction Mode	End point
Wavelength	630 nm
Light Path	10 mm
Blanking	Reagent blank
Reagent Volume	1000 µl
Standard Volume	10 µl
Sample Volume	10 µl
Incubation Temperature	2 mins at RT
Standard concentration	10 mg/dl
Linearity	15 mg/dl

PROCEDURE

Addition Sequence	Blank	Standard	Sample
Reagent 1	1000 µl	1000 µl	1000 µl
Standard	----	10 µl	----
Sample	----	----	10 µl

All glass ware used in Calcium assay should be washed with washing solution and to be followed by rinsing with distilled water.

Mix well & incubate for 2 minutes at Room temperature read absorbance of sample and absorbance of standard against reagent blank.

CALCULATION

Concentration (C) of calcium in the sample:

$$C = \frac{\text{Abs sample}}{\text{Abs standard}} \times 10 \text{ mg/dl (conc. Of std.)}$$

NORMAL VALUES

8.10 – 10.4 mg /dl

LIMITATIONS

If the value exceeds 15 mg / dL, dilute the sample with 0.9% saline solution rerun and result multiplied by dilution factor.

QUALITY CONTROL AND CALIBRATION

It is recommended 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.

- When using a new reagent or lot.
- When QC values are out of range.

WASTE DISPOSAL

This Product is made to be used in professional laboratories.










HIGHLIGHT

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

REFERENCES

Tietz N.W., ed. Clinical Guide to laboratory Tests, 3rd ed. Philadelphia, Pa: W.B. Saunders,610 – 611.

Lords Data File.

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

IFU/CAL/01 Rev.: 02; Rev Dated.: 22/07/2024

