

Calcium (Ca) Colorimetric Assay Kit

Cat.No: OttoBC133

Summary & Explanation

The adult human body contains about 1000 to 1500 g of Ca (depending on gender, race, size of the body) of which 99% is found in the bones in the form of hydroxyapatite. For this reason, Ca is probably the most studied nutrient in the area of bone health. Dietary Ca requirement is determined mostly by skeletal needs, and it exerts a threshold behavior. Approximately 80–90% of bone mineral content is comprised of calcium and phosphorus. Other dietary components, such as protein, magnesium, zinc, copper, iron, fluoride, vitamins D, A, C, and K are required for normal bone metabolism, while other ingested compounds not usually categorized as nutrients.

Test Principle

Colorimetric method assay

Detects Calcium concentration in serum or plasma
Calcium + Arsenazo III → Coloured Calcium Complex

Kit Components

Content	Explanation	Shelf life
Reagent-1	1x30ml	6 months
Calibrator	1x0.5ml	6 months
Q.Control	1x0.5ml	6 months

Storage & Stability

Reagent: Stable up to expiry date when stored capped and at +4°C even after start using

Calibration and Quality Control: Reconstitute the contents of with 0.5 ml of distilled water . Stable for 2 days when stored at +4°C

Reactivity

Universal

Specimen

Serum, Plasma (Edta or Heparin)

Stability: +4°C 2 days, -80°C 6 months

Assay Range

4 mg/dl – 16.0 mg/dl

Reference Range

Each laboratory is recommended to establish their own reference values.

Analytical Performance

Inter Assay Coefficient of Variation (CV) % 2.2

Intra Assay Coefficient of Variation (CV) % 2.2

Procedure

Wavelength	650nm (±10nm)
Sample or Standard	3µl
Reagent-1	300µl
Zero Adjustment	Reagent blank

Mix well of reagent-1 and sample or standard, wait 3 minutes, at 37°C during 30 seconds. Read absorbance

Calculation

$$\text{Result (g/dL)} = \frac{\text{Abs. Samples}}{\text{Abs. Standard}} \times \text{Standard con.}$$

Warning

For in vitro use only

Do not pipette by mouth

Do not use reagents beyond the expiry date.

References

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