

# DELTA CALCIUM (O-CPC)

## ORDER INFORMATION

CODE : DL0511 - R1 - 2 X 25 ML + R2 - 2 X 25 ML  
DL0512 - R1 - 4 X 25 ML + R2 - 4 X 25 ML

## SAFETY PRECAUTIONS AND WARNINGS :

This reagent is for *In vitro* diagnostic use only.

## INTENDED USE :

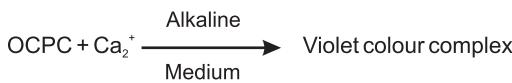
This reagent kit is intended for "*in vitro*" quantitative determination of CALCIUM concentration in serum, plasma & urine.

## CLINICAL SIGNIFICANCE :

In the human body 98 - 99% of calcium is present in bound form in bones and teeth. About 50% of the blood calcium circulates in ionic form, the other part as bound to proteins. The concentration of ionic calcium is influenced by the acid-base household of the body. The ratio of ionic/protein-bound calcium is higher in acidosis and lower in alkalosis. Elevated calcium levels are found in association with primary hyperparathyroidism, neoplastic diseases (eg. breast cancer, bronchial cancer, pancreatic tumor), osteoporosis, Paget's disease and Addison's disease, overdosage of the vitamins A and D, hyperthyroidism. Lower calcium values are measured in hypoparathyroidism, disturbances of the absorption, chronic renal failure, nephrotic syndrome, hepatic cirrhosis, acute pancreatitis.

## PRINCIPLE :

Calcium ions present in sample reacts with ortho cresolphthalein complexone in alkaline medium in presence of 8- hydroxy quinoline and forms a violet coloured complex. The intensity of which is measured at 578nm(550 - 590 nm).



## REAGENT COMPOSITION :

Reagent 1 : Calcium OCPC Reagent  
Reagent 2 : DEA Buffer  
Calcium standard : 10 mg/dl

## MATERIALS REQUIRED BUT NOT PROVIDED :

- Clean & Dry Glassware.
- Micropipettes & Tips.
- Colorimeter or Bio-Chemistry Analyzer.

## SAMPLES :

Serum free of hemolysis, Heparinized plasma or Urine. Dilute urine 1:9 in normal saline. Multiply the result by 10

## STABILITY OF REAGENT :

When Stored tightly closed at room temperature protected from light and contaminations prevented during their use; reagents are stable up to the expiry date stated on the label.

## WORKING REAGENT :

Bring all the reagents to room temperature.  
The working reagent is prepared by mixing equal volume of reagent 1 and reagent 2 (1:1 ratio).  
The working reagent is ready for the use & stable for 4 hrs at 2° - 8° C

## GENERAL SYSTEM PARAMETERS :

Reaction type	End Point (Increasing)
Wave length	578 nm (550nm - 590 nm)
Light Path	1 Cm
Reaction Temperature	37°C
Blank / Zero Setting	Reagent
Reagent Volume	1ml
Sample Volume	20 µl
Incubation Time	5 Minutes
Standard Concentration	10 mg/dl
Low Normal	9.0 mg/dl
High Normal	10.6 mg/dl
Linearity	15 mg/dl

## ASSAY PROCEDURE :

	Blank	Standard	Sample
Working Reagent	1ml	1ml	1ml
Standard		20 µl	
Sample			20 µl

Mix and read the optical density (A) after a 5 - minute incubation at 37°C.

## CALCULATION :

$$\text{Calcium Conc. (Mg/dl)} = \frac{\text{OD of Sample}}{\text{OD of Standard}} \times \text{Conc. of Standard}$$

## LINEARITY :

Reagent is Linear up to 15 mg/dl.  
Dilute the sample appropriately and re-assay if Calcium concentration exceeds 15 mg/dl. Multiply result with dilution factor.

## REFERENCE NORMAL VALUE :

9.0 - 10.6 mg/dl

## QUALITY CONTROL :

For accuracy it is necessary to run known controls with every assay.

## LIMITATION & PRECAUTIONS :

1. Storage conditions as mentioned on the kit to be adhered.
2. Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
3. Before the assay bring all the reagents to room temperature.
4. Avoid contamination of the reagent during assay process.
5. Use clean glassware free from dust or debris.

## BIBLIOGRAPHY :

1. Ray Sarkar, B.C., and U.P.S.Chauha., Anal Biochem. 1967;20:155
2. Barnett, R.N., Et.al.(1973) Amer.J.Clin.Path.59:836.



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