ESTROM Calcium
(OCPC Method)

ANGSTROM BIOTECH PVT. LTD

This reagent kit is for quantitative estimation of Calcium (Ca^{++}) in serum.

PRINCIPLE:
In an alkaline medium, calcium reacts with O-cresolphthalein complexone & forms a purple coloured complex. Intensity of colour is measured at 570 nm & this corresponds to calcium concentration. The presence of 8-Hydroxy quinoline in the reagent prevents interference by magnesium.

$$OCPC + 2\,Ca^{++} \longrightarrow OCPC\,(Ca^{++})_2.$$

CLINICAL SIGNIFICANCE
Clinical conditions like hyperparathyroidism, multiple myeloma, neoplasia of bone & parathyroidism, & conditions of rapid demineralization of bone results in elevated calcium values. Lower calcium values seen in case of hypoparathyroidism, tetany & occasionally with nephrosis and pancreatitis.

SPECIMEN COLLECTION & STORAGE:
- Fresh, clear, fasting serum.
- Do not use hemolysed or grossly contaminated samples.

PRECAUTION:
- All the glasswares should be thoroughly decontaminated by soaking in 1N HCl over night (8 to 10 hrs).
- Then, wash & rinse with glass distilled water & keep it for drying prior to use

REAGENT:

All the reagents to be stored at 2-8°C

	No. of Bottles
Reagent 1 (OCPC)	1
Reagent 2 (Buffer)	1
Standard (10 mg/dl)	1

PREPARATION OF WORKING REAGENT:
Mix equal volumes of 1 calcium & 2 calcium as per daily requirement.

REAGENT STORAGE AND STABILITY:
All the reagents are stable, up to expiry date stated on the labels when stored at 2-8°C.

GENERAL INSTRUMENT PARAMETERS:

Reaction Type	: End Point
Reaction Slope	: Increasing
Wavelength	: 570 nm (540-580 nm)
Flowcell Temperature	: 30° C
Reagent Volume	: 1.0ml
Sample Volume	: 10 µl
Incubation	: 5 min at R.T.
Standard Concentration	: 10 mg/dl
Zero Setting	: Reagent blank

PROCEDURE
For 1 ml

Dispense into test tubes	Blank	Std.	Test
Working Reagent	1.0ml	1.0ml	1.0ml
Sample	-	-	10 µl
Standard	-	10µl	-

Incubate for 5 min. at R.T. (25^0-30^0), and read absorbance of standard & sample against reagent blank at 570 nm (540-580 nm)

STABILITY OF REACTION MIXTURE:
The colour of the final reaction mixture is stable for one hour (when protected from light)

CALCULATIONS:

$$\text{Calcium Concentration (mg/dl)} = \frac{\text{Abs. Test}}{\text{Abs. std}} \times 10$$

REFERENCE VALUES:

Serum : 8.7-10.5 mg/dl.
It is recommended that each laboratory establish its own reference values.

LINEARITY:
This method is linear for calcium values up to 20 mg/dl. For sample with values higher than 20 mg/dl, dilute the sample using normal 0.9% saline and repeat the assay. Apply proper dilution factor while calculation.

BIBLIOGRAPHY:

- Young. S.D. Pestaner, L.C., and Gibbermon, V., Clin,Chem.Vol.21, No.5,(1975).
- Sachwartzenbach, G. Complexones & Teir Analytical Applications, Analyst 80, 348-353 (1956).

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⚠	Attention,see instructions for use	ℹ	Consult Instructions For Use
IVD	For in vitro diagnostic use only	REF	Catalog #
	Store at RT	LOT	Lot Number
	Do not use if package is damaged		Date of Manufacturing
	Manufacturer		Use by