CALCIUM OCPC

Colorimetric method (o-cresolphtalein complexone)

Liquid reagents ready to use

REF. 0014/50 4x 50 ml
REF. 0014 4x100 ml

CE
IVD

Azienda certificata DNV

GIESSE DIAGNOSTICS

INTENDED USE

Quantitative determination of calcium in serum, plasma ,urine.

PRINCIPLE

The o-cresolphtalein complexone combines with calcium at alkaline pH to form a red-violet complex, the absorbance of which is measured at 570 nm. The reaction has high specificity and interference from magnesium is avoid thanks to a specific chelator.

SAMPLE

Serum, plasma with heparin, urine/24 h.

Do not use citrate, oxalate or EDTA as anticoagulants.

Calcium is stable 7 days at 2-8°C and several months at -20°C.

Urine samples must be acidified with 20-30 ml of HCl 6M for quantity of 24 hours to prevent the precipitation of calcium salts.

Old sera presenting evident precipitates can not be analyzed.

Dilute urine 1:2 with distilled water and multiply by 2 the result.

KIT COMPONENT

Reagent (A) Ca Volume = 50/100 ml	Good Buffer	100 mmol/l
Reagent (B) Ca Volume = 50/100 ml	OCPC 8-hydroxyquinoline	0.1 mmol/l 2.0 mmol/l
Standard Volume = 10 ml	Calcium Sodium azide	**10 mg/dl** (2.5 mmol/l) 10 mmol/l

The reagents are stable until the expiration date indicated on the label if stored at 15-25°C.

Once opened reagents are stable for 2 months if contamination is avoided.

Keep bottle of Reagent (A) closed when not in use.

REAGENT PREPARATION

Liquid reagents, ready to use.

For **use as mnoreagent**: mix the Reagents (A) and (B) into equal parts.

The working solution (A+B) is stable at least 3 days at room temperature (15-25°C) in a dark bottle, protected from light.

PRECAUTIONS AND WARNINGS

Reagent may contain some non-reactive and preservative components. It is suggested to handle carefully it, avoiding contact with skin and swallow.

Use the normal precautions required in the laboratory.

Dispose of waste according to local laws.

PROCEDURE

Wavelength:	570 nm (550 – 580)
Lightpath:	1 cm
Temperatura:	37°C
Reading:	against blank reagent
Method:	Increasing End Point
Sample/Reagent:	1/120

Use as monoreagent:

pipette:	blank	sample	standard
Reagent (A+B)	1200 µl	1200 µl	1200 µl
water	10 µl		
sample		10 µl	
standard			10 µl

Use as bireagent:

pipette:	blank	sample	standard
Reagent (A)	1200 µl	1200 µl	1200 µl
Reagent (B)	1200 µl	1200 µl	1200 µl
water	20 µl		
sample		20 µl	
standard			20 µl

Mix, incubate at 37°C for 2 minutes and read against blank reagent the absorbance of the sample (Ax) and the standard (As).

Reaction volumes can be proportionally varied.

This method describes the manual procedure to use the kit.

For automated procedure, ask for specific applications.

RESULTS CALCULATION

Serum/plasma:

Calcium mg/dl = Ax/As x 10 (standard value)

Urine 24 h:

Calcium mg/24h = Ax/As x 10 x 2 (dilution factor) x Urine Volume (dl)

EXPECTED VALUES

Serum/plasma:	**8.6 – 10.3**	**mg/dl**	**(2.15 – 2.57 mmol/l)**
Urine:	**100 – 300**	**mg/dl**	**(2.49 – 7.49 mmol/l)**

Each laboratory should establish appropriate reference intervals related to its population.

QUALITY CONTROL

You must perform the controls at each kit's use and verify that the values obtained are within the reference range reported in the operating instructions. For this purpose we recommend the use of control sera: PRECISENORM (REF.6000) and PRECISEPATH (REF.6001).

PERFORMANCE

Sensitivity: the sensitivity of the method is: 0.6 mg/dl.

Linearity: The method is linear up to 25 mg/dl. For higher values, dilute the sample 1:2 and multiply the result by 2.

Precision intra-assay:

	Level 1	Level 2	Level 3
Mean (mg/dl)	3.32	9.17	18.42
DS	0.015	0.043	0.092
CV %	0.45	0.46	0.50

Precision inter-assay:

	Level 1	Level 2	Level 3
Mean (mg/dl)	3.22	9.03	18.40
DS	0.017	0.077	0.115
CV %	0.52	0.85	0.63

Interferences: bilirubin does not interfere up to 20 mg/dl. Triglycerides do not interfere up to 1250 mg/dl. Hemoglobin does not interfere up to 100 mg/dl. Magnesium up to 20 mg/dl does not interfere. Highly hemolized or lipemic sera could determine an increase in calcium values. Prepare a blank sample with distilled water.

Correlation against a reference method: Y = 0,95x + 0.158 r = 0.957

REFERENCES

1. Ray Sarker B. C. et al, Anal. Biochem. 20, 155 (1967).
2. Baginski E. et al,Clin. Chim. Acta 46:49 (1973).
3. Young D. S., et al, Clin. Chem. 21:1D (1975).

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