Ca O-CPC
CALCULUM O-CPC
Method: O-Cresolphthalein
Product Code: 141G-0202
Packaging: 3 x 25 mL (R1) ÷ 3 x 25 mL (R2)
Store at 2 – 8°C
For in vitro use

**CLINICAL SIGNIFICANCE**
Calcium concentration in serum increases in cases of primary and tertiary hyperparathyroidism, in hyperthyroidism, in conditions with bone involvement (in particular metastatic bone tumours, multiple myeloma, lymphomas, leukaemia), excessive calcium intake, excessive vitamin D levels, Paget's disease, acromegaly, sarcoidosis, milk-alkali syndrome, liver or kidney disease, idiopathic hypercalcaemia during infancy, drug induced hypercalcaemia, dehydration. Lower calcium levels can be observed in hyperparathyroidism, pseudohypoparathyroidism, vitamin D deficiency, chronic renal failure, liver disease causing decreased albumin production, low serum magnesium, hyperphosphatemia, acute pancreatitis, osteomalacia, prolonged anticonvulsant therapy, inadequate nutrition.

**METHOD PRINCIPLE**
In alkaline pH, calcium forms a red complex with o-cresolphthalein. The intensity of the colour formed is proportional to the calcium concentration in the sample. The 8-Hydroxyquinoline prevents the interference of Magnesium in levels below 4 mM.

**REAGENT COMPOSITION**
Buffer (R1)
AAS Buffer, pH>11: 0.83 M
Non reacting ingredients
Chromogen (R2)
cresolphthalein: 0.1 mM
8-Hydroxyquinoline: 8 mM
Non reacting ingredients

**WARNINGS - PRECAUTIONS**
- This reagent is designed for in vitro diagnostic use. In vitro diagnostic reagents can be hazardous. They should be handled according to good laboratory techniques. Avoid inhalation and contact with eyes and skin.
- Samples should be considered as potentially infectious. Handle with special caution.
- Dispose of all waste according to national laws.
- MSDS is available by MEDICON upon request.

**PREPARATION**
Reagents are liquid and ready-to-use. To prepare a working solution mix 1 part R1 and 1 part R2.

**STORAGE AND STABILITY**
All the components of the kit are stable until the expiration date on the label when stored tightly closed at 2-8°C and contamination is prevented during their use. Do not use reagents after the expiration date. Other reasons to avoid using the reagent are:
- Presence of particles and when it appears cloudy.
- After prolonged exposure to sunlight or high temperature.

Working reagent: After reconstitution, working solution is stable for 30 days when stored tightly capped at 2 – 8°C.

**SAMPLE**
Fresh, non hemolyzed serum or heparinized plasma. Do not use citrate, oxalate, EDTA as anticoagulant as they strongly chelate Ca²⁺ ions. Serum samples are stable for 10 days at 4°C. Avoid repeated freezing-thawing. Collect 24-hr urine sample in a bottle containing 10 mL HCl 6M or acidic after collection to pH < 2 and wait for 1 hour before analysis to allow any calcium salts to dissolve. Record the volume. Dilute urine samples 1.5 with deionized water. Multiply results by 5 (dilution factor). Calcium concentration should also be corrected for the added volume of HCl.

**PROCEDURE / CALCULATIONS**
Assay conditions:
- Wavelength 550 nm
- Temperature 25°C
- Cuvette light path 1 cm

1. Adjust the instrument to zero with distilled water.
2. Pipette into a cuvette:
   - Working Reagent (mL)
   - Water (μL)
   - Calibrator (μL)
   - Sample (μL)

**REFERENCES**
The results were as follows:

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Mean Ca (mg/dL)</th>
<th>95% Confidence Interval</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>7.5</td>
<td>7.00-7.99</td>
<td>7.00</td>
<td>7.99</td>
</tr>
<tr>
<td>Plasma</td>
<td>7.2</td>
<td>6.80-7.59</td>
<td>6.80</td>
<td>7.59</td>
</tr>
</tbody>
</table>

**BIBLIOGRAPHY**

**SYMBOLS**
- Temperature Limits  (2°C - 8°C) (ISO 15223/rev. EN980/IS O980).
- Batch Code [ISO 15223 / EN980].
- Catalogue Number [ISO 15223 / EN980].
- Date of Expiry [ISO 15223 / EN980].